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# A Photograph:

## AND HOW TO TAKE IT.

By "ONE WHO KNOWS."

EDITED BY

A. A. WOOD, F.C.S.

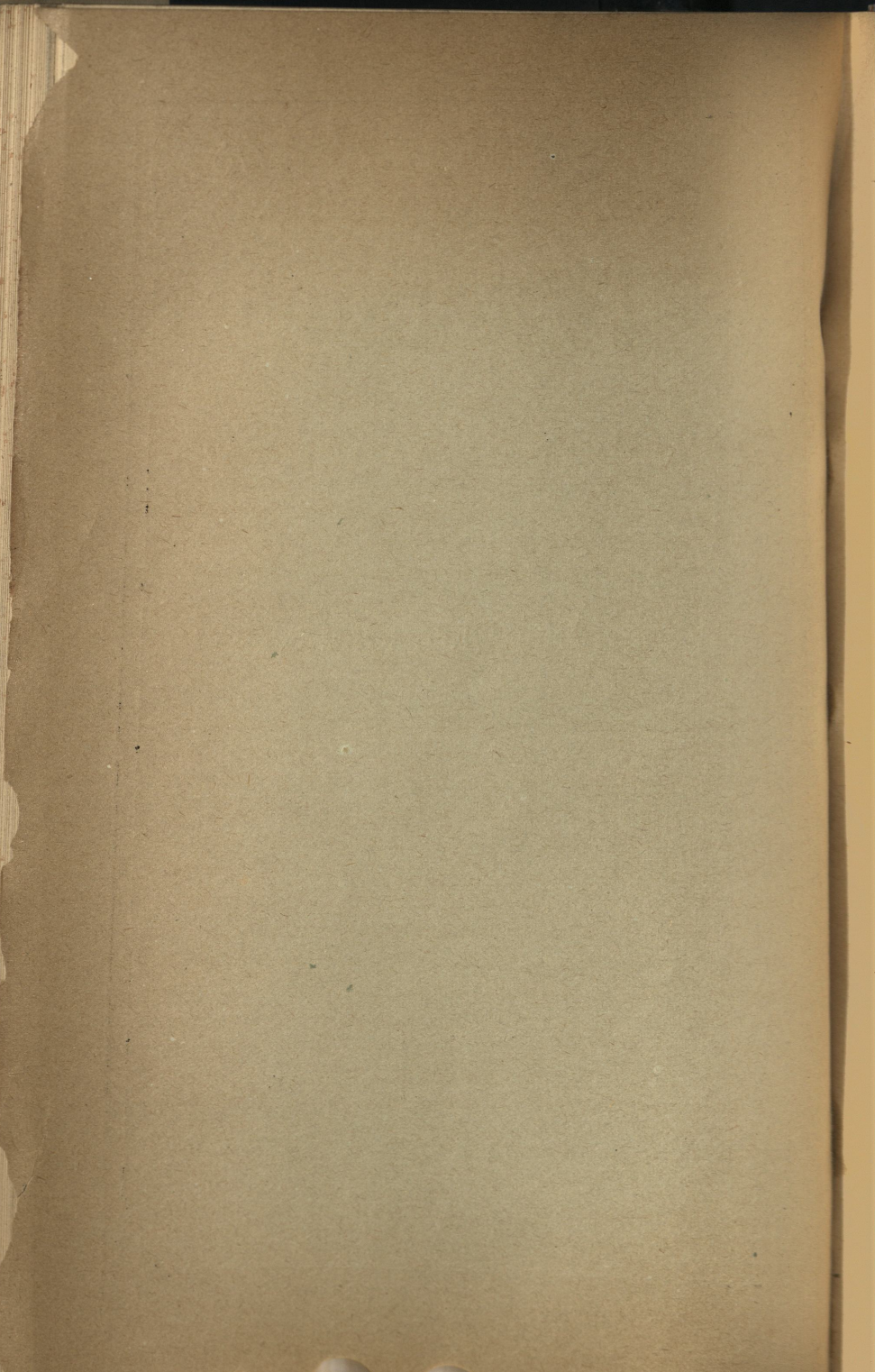
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THE late remarkable improvements in Dry Plate Photography have quite revolutionised this most attractive art. To many persons the expense, trouble and stains of the Wet Process were so great and objectionable that photography came to be regarded as an occupation only suited to the professional. Most of these difficulties have been cleared away, and a tourist, with a small camera and a packet of dry plates, can now with ease and rapidity photograph any object of interest that attracts his attention, leaving the developing and fixing of his plates till his return home.

The following directions are intended for beginners in the art of photography, and though only one method of procedure is described, it is not meant that this is the only one by which perfection can be obtained. There are, in fact, many ways of obtaining the required results, and the practised photographer can always produce the best work by following the method to which he is best accustomed, but beginners are strongly advised to adhere exclusively to one formula until they have completely mastered it; then, but not before, they may, with some prospect of advantage, vary their course as circumstances may suggest.

### THE APPARATUS.

This necessarily depends upon the sum the beginner wishes to expend, and the extent to which he intends to carry the practice of the art. From fifty shillings and upwards he can be furnished with a complete apparatus, including bellows camera, stand and lens, plates and chemicals. Of course he will not expect to find in the lower-priced apparatus the same facilities, perfection of workmanship, and beauty of finish afforded by the more costly sets, but with a proper degree of care very successful results may be obtained. Whatever be the class of apparatus determined upon, it is important that both camera and stand.



while light and portable when closed, are firm and free from vibration when fixed up for use, and the fewer loose parts they have about them the better, as all such are apt to be lost or forgotten.

The following list includes only the articles absolutely necessary for producing a finished paper print:—Camera, Lens, Stand, Focussing Cloth, Dry Plates, Measuring Glass, Developing and Fixing Solutions, Dishes, Printing Frame, Sensitive Paper, Toning and Fixing Baths, Mounts, and Mounting Medium.

### THE CAMERA.

A Photographic Camera may be roughly described as consisting of a box, at one end of which is the lens, the opposite end being closed either by the ground glass screen upon which the image of the object to be photographed is focussed, or by the dark back which contains the sensitized plate.

So infinite is the variety of models and patterns that a full description would be impossible. First there are what we term "Beginner's Cameras;" these have all the points necessary for the production of a picture, but lack the precision and rigidity of the higher class instruments.

Between these and the very best lies a range of confusing grades, both as to usefulness and price; and to anyone choosing a camera the best advice is—fix in your mind the sum to be expended, and carefully inspect one or two patterns before purchasing. It is a great mistake to wander from shop to shop, for it is impossible to obtain a clear idea after seeing a score or more varieties of workmanship and finish. Let the choice be made among the goods of a house of repute.

The following are the sizes of the plates in ordinary use:—

$3\frac{1}{4} \times 3\frac{1}{4}$	for Lantern Transparencies.	
$4\frac{1}{4} \times 3\frac{1}{4}$	or "Quarter Plate"	$10 \times 8$ Extra size.
$6\frac{1}{2} \times 4\frac{3}{4}$	or "Half Plate"	$12 \times 10$ "
$8\frac{1}{2} \times 6\frac{1}{2}$	or "Whole Plate"	$15 \times 12$ "

"Inner Frames" or "Carriers" can be supplied to the dark slides, so that the smaller sizes of plates can be used in large cameras.

### THE LENS.

A few words upon the Lens may not be out of place when it is remembered that upon its perfect adaptibility to the work depends a great part of the perfection of the picture. Photographic Lenses may be broadly divided into two classes—the "Single Achromatic" and the "Rectilinear Doublet." The requisite exposure of a plate depends upon the amount of light thrown by the Lens upon it, and this depends upon the aperture of the Lens, the quantity of the light varying as the well-known law of the square of the aperture, so that all things being equal, a Lens with an aperture of one diameter will require four times the exposure of a Lens with an aperture of twice that diameter;



this consideration points out the limit of the value of a Single Achromatic, or View Lens. When very rapid exposures are required, we must have larger apertures than the Single Lens will allow, and to obtain these we must use the Rectilinear Doublet Lens.

This Doublet Lens is made in various forms to answer various purposes, but whether called a Rapid Symmetrical or Rapid Rectilinear, the principle of its construction is the same; a second lens is placed behind the first, and so shaped as to collect the rays which a single lens fails to utilize, and consequently increased rapidity is obtained. To sum up. If pictures of still life or general landscape views requiring moderate exposures are wanted, a View Lens will give fair results; but for pictures of moving objects, requiring short or instantaneous exposures, a Doublet must be employed. In selecting a Rectilinear or Symmetrical Lens, remember that its focus should about equal in length a line drawn across the longest diagonal of the plate to be covered. When it is desired to photograph a building in the distance, a lens of one size larger than that ordinarily used should be employed, or the subject will not be obtained in adequate size. If a Rapid Rectilinear lens is being used on a long focus camera, the same effect may be obtained by unscrewing the front combination, and using the back lens alone. For near objects, a Wide Angle lens should always be used. Besides the Rectilinear, and Wide Angle Lens, with which views and groups may be taken, and paintings and drawings copied and enlarged, there is the Portrait Lens, having a still larger aperture, and working with proportional rapidity. This may be used for view-taking, but it is necessary to stop down the aperture very much, creating objections which the Rectilinear combination is free from.

### THE DARK ROOM.

A Dark Room is of course necessary, and for our use it must be *really dark*; the faintest ray of white light perceptible to the eye after the observer has remained some few minutes in the room will inevitably fog a rapid plate. The window, if window there be, should be nearly covered, a space of not more than a foot square being allowed to remain, and this must be shielded by two or more thicknesses of "Non-Actinic Medium." A Dark Room Lantern, which will yield a uniform light, is however recommended, as daylight is not always the same. The artificial light enables a better judgment to be formed of the progress of Development and the density of the negative. In order to test the condition of the Dark Room, put a plate in a dark slide, and after drawing out the shutter half-way, expose it close to the source of light for 30 seconds. Then develop and fix as instructed further on. If the light be good, both halves of the plate will be perfectly transparent; if bad



the exposed half will be "foggy," in which case the light must be altered and re-tested.

The door of the room must fit quite tightly, and be provided with an inside fastening.

A shelf or two will be necessary, and it is better to have a sink with water laid on, but this is not an absolute necessity. A pail and small can of clean water will answer very well.

The importance of cleanliness cannot be overrated, and a towel should hang by so that the fingers may be dried, and no wet get to the dark slides or plate boxes.

Other little "dodges" will occur to the operator as he progresses in his work.

### THE DRY PLATES.

Of these there are so many brands and rapidities that we will not confuse our amateur friend by attempting a description. This, however, is good advice:—at first use Slow or "Landscape" Plates, and keep to one make until a good picture can be produced. By degrees practice will enable the operator to try a more rapid plate, and make slight modifications in the strength of the Developer, etc.

For a beginner's use, the "Trafalgar" *Landscape* Dry Plate will be found most satisfactory, the advantage over other plates being due to their being slower, and less ready to fog through inexperienced handling and errors of judgment in exposure.

We will suppose now that the Dark Room is ready, and all requisite materials at hand, and the beginner ready to proceed to take the first picture. Take the Dark Slides into the Dark Room with the box of "Trafalgar" *Landscape* Dry Plates. Carefully open the latter, and transfer the plates to their proper position in the slides, film sides towards each sliding shutter. Handle the plate by its edges only, as finger marks are likely to show in the finished negative. Brush over each plate lightly with a camel hair brush (kept for that purpose only), to remove any dust from the film, which if allowed to remain would produce "pin-holes."

### FILMS.

The recent introduction of Sensitive Films as a substitute for Sensitive Glass Plates affords great advantages as to portability. The films are made in long lengths, and also in Slips of the Standard Sizes. In the former case a special Dark slide, with two rollers, is required for exposing these films in the camera, but with the latter, the ordinary dark slide can be used—the films being placed on a special carrier.

The development is somewhat similar to that of dry plates.

Separate descriptive papers are issued by the makers. Further particulars of these will be found in the catalogue.



## PICTORIAL EFFECT.

In taking a photograph, it should be remembered not only to select an interesting subject, but also to give considerable attention to the point of view from which the subject is to be photographed; for it is at this point that the difference between the artistic and the mechanical photographer becomes manifest. In order to assist the judgment of the amateur, we give a few rules that should be attended to.

1.—Perhaps the first principle to be noted in landscape delineation, is that of the height of the horizon. For fine pictorial effect this should never be in the centre of the subject—but either above or below it.

If the subject requires a high horizon, it will be safe to keep it about two-thirds of the height of the plate; if it requires a low horizon, as for coast scenes, about one-third or three-eighths of the height of the plate.

2.—Avoid having each side of your picture alike.

3.—Have the subject well illuminated with properly balanced light and shade; should the shadows be too deep, the detail of the picture will be lost.

4.—Remember, a curved line is more pleasing than a straight line, and a pyramid is pictorially better than a square.

## FITTING UP THE CAMERA.

Having set up the camera so as to secure the best point of view, observe, further, that the vertical lines are vertical, and horizontal lines are horizontal. This work is greatly facilitated by having a circular level fixed on the top of the camera. The next point to attend to is to carefully focus the image upon the ground-glass screen. In order to secure perfect accuracy in this operation, a Focussing glass, *having a very flat field of view*, should be employed. The "Aplanatic" Eyepiece recently perfected by H., T. & W. is very strongly recommended for this purpose. This being done, cover the lens with its cap, remove the screen, and insert the dark slide. Now cover the back of the camera with the focussing cloth, and carefully draw out the shutter of the dark slide; a few seconds being allowed to elapse, that the apparatus may cease to vibrate, uncover the lens and make

## THE EXPOSURE.

Upon this being correctly timed everything depends, and the greatest pains should be taken to obtain the power of intuitively realising the required exposure. This power comes with observant practice, and only general remarks rather than rules can be made. In the first place always try to give a full, rather than a short, exposure. Over-exposure skilfully treated may give a passable negative, but under-exposure no skill can cure. It is well to learn how to count seconds. This is most



easily done by fastening a small bullet to the end of a thin piece of string and suspending it upon a nail at  $39\frac{1}{3}$  inches from the centre of the bullet. Each beat of this simple pendulum, when vibrating in a small area, will give a nearly accurate measurement of one second. By observing the vibrations it is possible to acquire the habit of counting seconds with fair accuracy.

#### DEVELOPMENT.

The plate being exposed, two modes of Development are open to us, "Alkaline," and "Ferrous Oxalate." At first it is certainly advisable for the beginner to use ready-made solutions. By doing so he saves the expense of scales, weights, measures, &c., and will know that if he has failures, it is due to exposure of the plate, and not to wrongly mixed solutions.—

First in importance and usefulness stands the

#### ALKALINE DEVELOPER.

Pyrogallic Acid	...	...	...	...	...	...	1 oz.
Sulphite Soda	...	...	...	...	...	...	4 "
Citric Acid	...	...	...	...	...	...	72 grs.
Distilled Water	...	...	...	...	...	...	16 ozs.

Dissolve and Label **P**.

Bromide Potassium	...	...	...	...	...	...	1 oz.
Distilled Water	...	...	...	...	...	...	16 "

Dissolve and Label **B**.

Liq. Ammonia	...	...	...	...	...	...	1½ oz.
Distilled Water	...	...	...	...	...	...	16 "

Mix and Label **A**.

To form the Developer employ these stock solutions as follows :—

For a Plate				}	To every 2 ozs. of Water.
1. Under Exposed	<b>P</b>	<b>B</b>	<b>A</b>		
2. Normally "	$\frac{1}{4}$ dr.	$\frac{1}{2}$ dr.	$\frac{1}{2}$ dr.		
3. Over "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "		
	<b>I</b>	"	$\frac{1}{2}$ "	$\frac{1}{4}$ "	

The above three proportions will at once show the general rule to be observed in dealing with plates differently exposed. Of course when practice has taught correctness in exposure, the "No 2" strength will be used without doubt.

Let us suppose that we are about to develop the first plate :—Place the negative in an ebonite developing dish, film upwards, and flow over it the "No 2" Developer. If the image *flashes out immediately*, throw away the solution, and flood the plate with plain water. Then prepare the "over-exposed" solution, No. 3, and patiently watch the result for about five minutes, and if the picture shows very indistinctly, and without contrast, we must regard it as a failure, though by prolonging the development, perhaps another ten minutes, a better result may follow.



If, on the other hand, after the application of the "No 2" solution for a period of about three minutes, no image appears, we may infer *under-exposure*—then throw away the "normal" solution, and apply the "under-exposed" or No. 1 Solution.

If any air bubbles appear on the film, they must be broken by the finger or a camel hair brush, for if allowed to cling to the plate, they will cause transparent spots. Another point to remember is—always keep the Developing Dish rocking to and fro. When many plates have been developed in succession by the Alkaline formula, the fingers will be stained, but the brown marks can be easily removed, *when new*, by rubbing the fingers well with the Clearing Solution described further on. We will now describe the

#### FERROUS OXALATE DEVELOPER.

Neutral Potassic Oxalate	...	...	...	...	...	6 oz.
Water...	...	...	...	...	...	24 "
Dissolve and Label <b>O</b> .						
<hr/>						
Ferrous Sulphate	...	...	...	...	...	3½ oz.
Citric Acid...	...	...	...	...	...	1 dram
Water	...	...	...	...	...	6 oz.
Dissolve and Label <b>F</b> .						

These solutions are used in the proportion of three parts of O, and one part of F. To develop a  $\frac{1}{4}$  plate, pour into the measure first  $1\frac{1}{2}$  oz. of O, and then  $\frac{1}{2}$  oz. of F, and flow it over the negative in the developing dish. If the exposure has been correct, a very clean and sparkling image will result; but this developer is capable of only slight modifications, and affords but little latitude in dealing with under or over exposure.

#### FIXING.

It is best to wash off all traces of the Developing Solution from the negative before Fixing. Dissolve

Hyposulphite Soda...	...	...	...	...	...	5 ozs.
Water	...	...	...	...	...	20 "

Keep this solution in a wide mouth bottle, as it is easier to pour it out, and return from the Fixing Dish. It may be used again and again until a brown discoloration occurs, when it should be thrown away. Place the negative in an ebonite dish, and pour the fixing solution over it. The negative should remain immersed in this solution until all the whitish opacity is removed, and the back of the film appears equally dark.

The negative may now be taken into the daylight, and should be thoroughly washed in frequently changed water for at least two hours. A Washing Trough is the most perfect means for complete removal of all traces of Hypo-soda, which if left in the film will bring about fading. After wash-



ing, the negative should be placed in the Draining Rack to dry slowly.

OBSERVE.—The dishes used for developing and fixing are not to be employed interchangeably.

### INTENSIFICATION.

It will sometimes happen that a finished negative, otherwise fairly good, is not quite dense enough to print well. The best thing to do under such circumstances is to take another ; but as that is not always practicable, we have to resort to "Intensification." For this purpose two methods are available—Mercuric and Uranic Intensification.

### MERCURIC INTENSIFICATION.

Make a solution of mercuric chloride one ounce to 10 ounces of water. The negative being completely washed from every trace of the fixing agent, immerse it in the mercuric chloride solution, which will gradually whiten the image. Then take it from the dish and again wash thoroughly ; after which place it in water to which five drops of strong ammonia to the ounce have been added. The image will again darken, and must be again washed and allowed to dry.

N.B.—Never adopt mercuric intensification if you wish to keep the negative. Sooner or later it will so fade as to be useless. When permanent intensification is required, recourse must be had to the Uranium solution, which is made with difficulty, and may be obtained in bottles ready for use.

### URANIC INTENSIFICATION.

Thoroughly wash the negative free from every trace of Hypo, then while moist from the washing, place it in a dish and flood it with the intensifier. Intensification will at once begin—first the high lights, and last the deep shadows. The action can be stopped by washing the negative under a tap. In judging when the intensification has proceeded far enough, it should be remembered that the negative, when dry, will be darker than when wet.

### THE ALUM OR CLEARING BATH.

It is recommended that *all negatives* be placed for a short time in the Alum or "Clearing" Bath, to prevent what is called frilling ; and there is an incidental advantage in so doing when a pyro-developed negative, instead of coming out clear, brilliant, and transparent, appears dirty brown and stained. Of course, if the instructions given above are followed to the letter, a pyro-developed negative will be just as clear and free from stain as one developed by ferrous oxalate. When the reverse is the case, it most frequently arises from impure chemicals, dirty vessels, insufficient washing between development and



fixing, or allowing light to fall upon the plate before fixing is complete.

Besides clearing the film, the following formula is suitable for removing pyro stains from the fingers.

Alum...	...	...	...	...	...	...	100	grs.
Citric Acid	...	...	...	...	...	...	25	"
Water...	...	...	...	...	...	...	5	ozs.

When a stained negative is being treated, it should be immersed until clear; but in the ordinary course 20 minutes will suffice. Thoroughly wash, and when quite dry the negative will be ready for

### VARNISHING.

The negative should be warmed before a fire or over a gas or spirit flame, until the back of the hand can just bear contact with the glass. Hold the negative at one corner in the left hand, and from the bottle gently pour some varnish in an even round puddle upon the film, and by slightly altering the level of the plate, cause it to flow to each corner, and from the last corner drain off into the bottle as much of the varnish as possible. Keep the last corner still downwards, and again gently warm, so that the spirit may be driven off and the film harden.

Negatives should be stored in grooved plate boxes, and not in paper parcels in close contact.

Having thus brought the beginner to the successful completion of the most important part of his labours—the taking a good negative—perhaps a word or two of warning, no less than of encouragement, may here be not without its use. Let him not, if things do not seem to go quite so well in his first essays as he hoped, at once lay the blame upon his materials—his plates, it may be, or his chemicals—begin, as many do, a vain search round the world for the wonderful developer which always goes right, or the magical plates which never go wrong. He may, perhaps, be reluctant to admit it, but in all probability the whole of his failures will spring from himself. His inexperience, his want of practice in the minutiae of photographic manipulation, will long prevent his detecting that in some little oversight, some minute not doing that which he ought to do, lies the unsuspected cause of all his disappointments. The exquisite results which now and then occur in the practice of every one, apparently accidental, show that the manufacture of plates is so far ahead of the practice of picture-making, but that rarely indeed do we get out of our materials all that there is in them. Therefore the beginner may rest well assured that careful persevering practice will eventually well repay him, in the mastery it will give over processes and materials which for a time may only seem to mock him with apparently ceaseless failures.



## RETOUCHING.

The careful Retouching of a portrait negative very much enhances the beauty of the print. Many defects of the skin and hard facial furrows are removed and softened down. Defects in the film may also be remedied.

The operation requires great delicacy of touch, and the Art of Retouching now amounts to a profession, and is quite beyond the average draughtsman's powers. (H. T. & W. are enabled to secure the most skilful work at very moderate prices.)

## PRINTING.

For this purpose the necessities are—

Pressure Frame	Washing Trough.
Sensitized Paper.	Cutting Shape.
Toning Bath.	Trimming Knife.
Fixing Bath.	Mounting Medium.
Two Dishes.	Cards.

The negative is placed in the printing frame film side upwards, and upon it is laid the sensitized paper face downwards. Upon the back of the paper a piece of thin cloth should be laid, so that when the hinged back of the frame is replaced and fixed by the springs, there is intimate contact between the paper and film. If the negative is thin, place the frame in a subdued light; if dense, a more brilliant light will be necessary. From time to time examine the progress of the print by opening one-half of the hinged back, and when the picture appears decidedly darker than it should be when finished, remove it. Keep it in a dry book until a few more prints have been taken. After sunset they should all be thrown into a large clean pan of water, and the water changed again and again till all milkiness ceases.

## CLOUDS, VIGNETTING, AND MASKING.

Many pictures are made more perfect and attractive by the process of Vignetting, which consists in shading off the margin. For this purpose a few Vignette Plates should be included in the outfit.

For Cloud effects, a "Cloud Negative" must be used, and many a landscape is increased in value by the beautiful results which are so easily obtained in the following manner:—

- 1.—Stop out or mask the sky, so that it prints quite white, or full justice will not be done to the cloud negative.
- 2.—Place the cloud negative in contact with the blank sky of the print, and lay them on a flat table in a soft light, with a piece of glass on top of the cloud negative, and covering the sky only; then place a focussing cloth (or mask) over the foreground, covering the joining as carefully as possible. No notice need be taken of foliage or dark objects of any kind in masking. A printing-frame is not necessary. They can be used (*either side up*) to suit the light on the subject.



Masking gives another pleasing effect to pictures. Ovals and oblongs, having rounded corners ("cushion" shaped), are cut very accurately in black paper, and laid between the negative and sensitized paper. This leaves the edge of the print quite white, and on this white edge fern leaves or designs may be printed. The first impression in the centre of the paper is covered up by the disc which is supplied, and exactly corresponds to the opening in the mask. Or instead of designs being printed, the picture may be covered by the disc, and the white edge allowed to darken in the light, to any extent the operator may deem most artistic.

A box of assorted Masks and discs can be obtained for one shilling.

#### TONING BATH.

Chloride Gold	...	...	...	1 gr.
Acetate Soda	...	...	...	20 grs.
Water	...	...	...	8 ozs.

The prints being well washed, place two or three in the toning bath, continually moving them about until the reddish colour of the image assumes a warmer and more pictorial line. The amount of tone may be varied to suit the fancy, and the moment the desired effect appears, the print should be removed and thrown into a pan of water. When all the prints are toned they must be placed in the

#### FIXING BATH.

Hyposulphite Soda	...	...	...	5 ozs.
Liquor Ammonia...	...	...	...	2 drms.
Water	...	...	...	30 ozs.

Considerable apparent change of tone will be noticed, but if the print has been properly dealt with, this need not cause alarm, as after washing and drying the tones return.

#### WASHING.

This subject quite needs a heading, as most of the failures in the practice of photography are due to dirty manipulation; unless at each stage thorough washing is made, stains and fading will result. This is especially the case with prints, which after fixing should lay in water, *frequently changed*, for 24 hours. The "Godstone" Automatic Washing Trough is recommended.

It is quite self-acting, and, when the supply of water has been adjusted it will continue discharging the water contaminated with hypo, or other chemical, until the water supply is exhausted. A very much smaller quantity of water will thoroughly wash the prints than can be done in the ordinary way—as most of the water used if run from a tap is absolutely wasted—on the other hand, if the prints are immersed in a vessel containing a quantity of water much in excess of that really required, excepting they are moved about from time to time, are not properly washed at all. With the AUTOMATIC TRAY, "B" size—if a full drop a second is supplied for 10 or 12 hours—ten or a dozen prints 5 by 4 will be found to be well washed, providing each print is rinsed in a dish when taken from the hypo before being placed in the GODSTONE TRAY.



After washing, all that is necessary is to take the prints from the trough and lay them between blotting-paper; when dry, trim with cutting shape and knife, and mount on cards with mounting medium.

The fine surface which makes our album pictures so attractive is produced with the "Burnisher."

#### READY-MADE SOLUTIONS.

These Solutions are enumerated in the Chemical List of annexed Catalogue, and will be found of great convenience to those whose time is limited.

#### OTHER PRINTING PROCESSES.

Of these there are a great many. The Photographic publications every week have some new tidings of advances made in "Contact" Printing, &c. But in this short paper, intended only to assist the beginner, the processes could hardly be dealt with satisfactorily. In most of them great nicety in developing and toning is required, for the picture is made rapidly, and unless each stage of the process is accurately treated the result is somewhat unsatisfactory.

For those, however, who are inclined to experiment, one or two of the easier papers are described.

#### FERRO-PRUSSATE PAPER.

For landscape work, and some portraits, the "*Ferro-prussiate*" paper yields very pretty blue prints. The exposure is very long, and only negatives with decided contrasts give good results. After exposure all that is necessary is to wash in water until the whites show purely. If any difficulty arises in getting clean white in the high lights, a slight trace of Carbonate of Soda may be put into the washing water.

#### FERRICYANIDE PAPER.

The positive or "*Ferricyanide*" paper prints more rapidly, but requires development and fixing. It is not suitable for printing from negatives, but architects and others wishing to reproduce plans and tracings, *in fac simile*, find it most useful. The directions for its use are as follows:—

EXPOSURE should be made in a printing frame giving equal pressure all over the surface, from five minutes in bright sunshine, to forty minutes in dull or rainy weather.

DEVELOPMENT:—From one or two minutes in a solution of one ounce each of *Red* and *Yellow* Prussiate of Potash, dissolved in ten ounces of water.

Correct exposure will bring out the lines of the tracing at once clear and strong as soon as the print is put on the developer. Under exposed prints show thick and indistinct lines, whilst over exposure produces faint lines.

FIXING:—In a Bath of ordinary sulphuric or hydrochloric acid, one ounce of either to ten ounces of water.



Slight stains of blue on the finished print are removed by using a stronger acid solution, applied to the discolored parts.

## EASTMAN'S BROMIDE PAPER FOR CONTACT PRINTING.

Printing with this paper can be obtained by exposure of the negative in an ordinary printing frame, for ten or twelve seconds in front of an ordinary gas flame.

### FORMULA FOR DEVELOPING IN BLACK AND WHITE.

No. 1.		No. 2.	
Oxalate of Potash ...	1 lb.	Photo-Sulphate of Iron ...	1 lb.
Hot Water ...	48 ozs.	Hot Water ...	32 ozs.
		Sulphuric Acid ...	$\frac{1}{2}$ dram.

Acidify with sulphuric acid. Test with litmus paper.

No. 3.	
Bromide Potassium ...	1 oz.
Water ...	32 ozs.

These solutions keep separately, but must be mixed *only* for immediate use.

### TO DEVELOPE.

Take in a suitable tray—No. 1, 6 ounces; No. 2, 1 ounce; No. 3, 1 dram.

*Mix in the order given*; use cold. After exposure, soak the paper in water until limp; then immerse in the developer.

The image should appear slowly and should develop up STRONG, CLEAR and BRILLIANT. When the shadows are sufficiently black, pour off the developer and flood the print with the

### CLEARING SOLUTION.

Acetic Acid ...	1 dram.
Alum ...	$\frac{1}{2}$ lb.
Water ...	32 ozs.

Do not wash the print after pouring off the developer and before applying the clearing solution. Use a sufficient quantity to flow over the print, say 2 ounces for an  $8 \times 10$ . Allow it to act for one minute and then pour it off and apply a fresh portion, repeating the operation a third time, then rinse and immerse in the

### FIXING BATH.

Hyposulphite Soda ...	3 ozs.
Water ...	16 ozs.

Wash thoroughly for one hour and hang up to dry. Use fresh developer for each print. With a glass bottomed tray seven ounces of developer are sufficient for a  $25 \times 30$  print.

OBJECT OF CLEARING SOLUTION.—The object of the clearing solution is to prevent the precipitation of the iron from the developer in the fibre of the paper. This can only be done by keeping the paper acid while washing out the developer.

If BLISTERS appear after fixing, they may be avoided by using a little common salt in the first washing water after fixing. The hypo must not be stronger than 3 ounces to 16 ounces of water.

NO TONING REQUIRED.—With Eastman's Permanent Bromide Paper, the final tones are obtained entirely by develop-



ment, and range from a soft gray to a rich velvety black, depending somewhat upon the density of the negative and the quality of the light used in printing.

**CLEAN DISHES. CLEAN HANDS.**—The faintest trace of Hyposulphite of Soda or of Pyrogallic Acid is fatal to good results with bromide paper, and the operator cannot be too careful to avoid any contamination. *The tray used for developing with oxalate should never be used for anything else.*

## LANTERN TRANSPARENCIES.

Of all the processes, that of preparing slides for the Magic Lantern is the most engrossing. In the winter, we are enabled to reproduce the pictures taken on our summer tour and can with pleasure and entertainment re-view the scenes by throwing them upon the screen with a Euphaneron or other optical Lantern. Few difficulties occur when the operator regards the instructions set down. The great secret for success is cleanliness. Clean dishes, clean measures, clean solutions, plenty of washing, and exact proportions.

### DIRECTIONS FOR THE "TRAFALGAR" GELATINO CHLORIDE PLATES.

For the successful manipulation of these plates, the following Accessories and Solutions are necessary :—Mahogany pressure frame, with flap front ; gummed binding strips ; magnesium ribbon ; two dishes ; glass measure ; developing solution ; fixing solution ; clearing solution ; mats, round and square shaped ; covering glasses.

Place over the opening of the pressure frame the portion of the negative to be represented, then with gummed paper, fix the negative to the wood work, and lay the card frame into position. Now go into the Dark Room, which may be, with safety, twice as light as when Bromide plates are being used ; and into the opening of the card place the Chloride plate, film downwards.

The felt pad and the wooden back will generally give sufficient pressure, though sometimes a small wad of wool may be necessary to ensure the closest contact between the two films, which is, of course, most essential in making a sharp transparency. The exposure is best made in the Dark Room by burning magnesium ribbon. Stand the frame up, and burn an inch of the ribbon at a distance varying from 1 to 3 feet, according to the density of the negative.

For development, two solutions should be prepared as follows :—

No. 1.					
Ferrous Sulphate	...	...	...	...	1 oz.
Distilled Water	...	...	...	...	5 "
Citric Acid	...	...	...	...	10 gr.
No. 2.					
Neutral Citrate of Potash	...	...	...	...	2½ oz.
" Oxalate of "	...	...	...	...	¾ "
Distilled Water	...	...	...	...	5 "



After exposure, lay the plate film upwards in a dish. Mix half an ounce each of Nos. 1 and 2, and quickly flow the mixture over the film. If the plate has been properly exposed, the development should be complete in about one minute.

To judge the density of the image, a subdued white light may be employed for a second or two at a distance of three feet, when the development is nearly complete, but care should be taken not to let too much light fall upon the plate.

If warm tones are desired, prepare—

#### No. 3.

Carbonate of Ammonia	...	...	...	1 oz.
Citric Acid	...	...	...	3 "
Water	...	...	...	5 "

and use No. 3 instead of No. 2.

After development, well wash the plate and immerse it into some clean fixing bath of following strength :—

Hyposulphite Soda	...	...	...	1 oz.
Water	...	...	...	5 "

The fixing will take place very rapidly, and after again washing, the brilliancy of the plate will be improved by being placed for a few minutes in the—

#### CLEARING SOLUTION.

Alum	...	...	...	...	$\frac{3}{4}$ oz.
Citric Acid	...	...	...	...	$\frac{1}{4}$ "
Water	...	...	...	...	8 "

NOTE.—Always use clean, fresh solutions ; keep the development and fixing dishes quite separate, and carefully wash them after each operation.

The Solutions for the above process may be obtained ready for use.

### ENLARGING.

It is somewhat difficult to lay down any distinct directions upon this point, as each operator has some end in view unlike another. We will, however, endeavour to set before the reader a few remarks as to the methods generally employed :—

To make an enlarged Negative from a small one. Let us assume that a quarter-plate negative ( $4\frac{1}{4} \times 3\frac{1}{4}$ ) is to be enlarged up to whole-plate ( $8\frac{1}{2} \times 6\frac{1}{2}$ ). The smaller negative must be fixed before a hole in a shutter, or other contrivance, so that a steady white light may equally illuminate the entire picture. Now set up the camera and carefully focus at such a distance that the image of the small negative shall just cover a half plate, ( $6\frac{1}{2} \times 4\frac{3}{4}$ ). Expose and develope. The result will be a positive transparency. Any defects or portions of the picture which might be improved by touching up should be carefully seen to before proceeding to complete the enlargement which is done by placing the half-plate positive transparency in the same position as the quarter-plate negative was, and again adjusting the camera until the picture on the screen size assumes the desired viz :— $8\frac{1}{2} \times 6\frac{1}{2}$  : Expose and develope.



And from this **negative** we can print as in the case of the original negative.

In the case of enlarged portraits, a certain amount of retouching will be necessary.

Another method is to prepare a transparency with a chloride plate by contact printing and then enlarge up to the size required as before described.

Ordinarily an enlarging camera is used in these operations, the lens being fixed in the centre of the body; but as every amateur does not possess an enlarging camera, it is possible to make a camera of the dark room itself.

The positive transparency is fixed up as before, and a long shelf or bench must be arranged to support the lens at one point and focussing glass at another—each being adjustable. When the desired picture is seen upon the focussing glass, the transparency must be carefully covered up so that no light may enter the room and a plate inserted in place of the focussing glass. To make the exposure, uncover the transparency—recover and develop.

**Enlargement on Paper and Opal Plates.** For this process artificial light is recommended. We will assume that a quarter-plate negative is to be enlarged from, it will be necessary to place it in a magic lantern. A lantern well suited for this work is the Euphaneron. Fix the negative in the stage of the lantern, and very carefully focus the picture upon a flat board, covered with white paper. Having exactly focussed, cover the objective of the lantern, and in **exactly the same position** as the focussing board, place another board having the sensitized paper flatly stretched upon it, pause a few seconds so that all vibration may cease, and gently uncover the lens.

The exposure may require from 12 to 120 seconds. Generally 20 seconds will be the average with pure negatives and bromide papers. It is a good plan to make a few trial exposures upon a number of small pieces of the sensitive paper and making notes upon the back of each piece.

Although instructions are contained in the packages, it may be convenient if we give a formula generally applicable for developing gelatino bromide paper, or opal plates.

**DEVELOPER.**—Saturated Solution of Neutral Oxalate of Potash, 4 ozs. Saturated Solution of Sulphate of Iron, 1 oz; 60 grs. to 1 oz. Solution of Bromide of Potassium or Ammonium, 6 min.

**Quantities necessary for Saturation.** — Sulphate of Iron, 12 ozs. to a pint of *boiling* water.

Neutral Oxalate of Potash, 8 ozs. to a pint of *boiling water*.

**NOTE.**—Two or three drops of sulphuric acid to each pint of iron solution will keep it from oxydizing. Half an ounce of loaf sugar added to each pint of potash solution, will increase the richness of the shadows in the developed print.



**FIXING SOLUTION.**—Hyposulphite of soda, 1 oz. to 6 ozs. of water.

**CLEARING SOLUTION.**—Sulphuric acid, 1 oz. to 80 ozs. of water.

Soak the Paper, or Opal Plate, a few minutes in water before developing, to allow of the developer acting evenly; drain off the water and develope, which will take from three to five minutes, supposing the exposure to have been correctly timed; when developed, well rinse off the developer. Fix from 10 to 15 minutes, and wash for about six hours in changing water, then soak in clearing solution for two or three minutes, or until such time as the slightly yellow tint disappears; again wash for about two hours, and dry spontaneously.

N.B.—A saturated solution of common alum should be used in hot weather, or when any tendency is shewn in the film of gelatine to blister. Soak in the alum for five minutes after washing off the developer; before fixing well wash to get rid of the Alum.

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## BOOKS.

Numerous books of reference are published. Burtons' "Modern Photography" (one shilling) should be read by everyone engaged upon photography. Wyles' Instructions for Beginners (one shilling). Hepworth's Photography for Amateurs (one shilling). More advanced is Capt. Abney's "Instruction in Photography" (3/6) and the two "Shilling" Almanacks full of the past year's experiences and formula of both amateur and professional, should be carefully prized, as the issue soon runs out and copies become rare.

A list of Books and weekly Journals will be found in the Catalogue.

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## INSTANTANEOUS PHOTOGRAPHY.

This is a very fascinating branch of the art, but it should not be attempted until the method of photographing still life has been thoroughly mastered.

In order to obtain a photograph of moving objects—such as ships, trains, races, etc.—it is necessary to employ extra sensitive dry plates, and also some mechanical means of opening and closing the lens with greater rapidity than can be done by the hand.

These mechanical means are called Instantaneous Shutters; they are fitted to the front of the lens, and the exposure is made by releasing a spring whereby the lens is uncovered, and instantaneously closed again.

One of the best of these is White's Instantaneous Shutter; it is constructed of ebonite, and is so contrived that there is



an absolute period of rest during the exposure ; and the duration of the exposure can be regulated by elastic springs. The movement of the shutter is so gentle that the camera is not put in a condition of tremor when the exposure is made—a fault too often present in the ordinary shutters.

The releasing of the shutter can be accomplished either by hand, or by the pneumatic arrangement. After the plates have been exposed the negative has to be developed, etc., in the ordinary manner.

## SENSITOMETER.

The difficulty of accurately judging the actinic condition of the light is experienced by most photographers, and errors of exposure are frequently made. In order to obtain definite data on this very important matter, sensitometers have been contrived. These enable a piece of ordinary sensitized paper to be exposed, and the time required for it to assume a definite tint being carefully noted, serve as a guide for the exposure of the dry plates.





# Descriptive Catalogue

OF

## Photographic Apparatus & Chemicals,

MANUFACTURED AND SOLD BY

HORNE, THORNTHWAITHE, & WOOD,  
**OPTICIANS,**

*Philosophical, Photographic, and Scientific Instrument Makers*

To Her Majesty,

*The Royal Observatory, Indian, & Chinese Governments, &c.*

By Special



Appointment.

416, STRAND, W.C.,

AND

E. G. WOOD,

74, CHEAPSIDE, E.C.

London.

1886.



# PREFACE

TO

## TWENTY-THIRD EDITION OF CATALOGUE, 1886.

THE success which was attained by this firm during the early days of Photography has secured it a reputation of first importance, and it is needless to remark that upon the same lines what may be termed the "Dry Plate Photographic Revival" will be treated.

It is believed that the following list will be found fairly comprehensive, and every article of established reputation is kept in stock.

Novelties will from time to time be added as they make their appearance.

The Cameras and accessories are made under special supervision, by workmen of long experience, and the smallest details (so important in practice) are critically observed.

The Chemicals are offered at as moderate a price as is consistent with purity.

We beg to draw special attention to the new "Trafalgar" Plates, which will be found easy of manipulation, and will give uniformly good results.

As in the days when the late lamented Prince Consort honored this establishment by attending to receive instructions in the fascinating art, so at the present time like facilities are offered to the amateur, the instructions to purchasers of sets being free of charge.

In remitting for goods to be despatched by post or rail it should be remembered that transit charges are not included in catalogue prices.

Country and Foreign Orders should be accompanied by a remittance. Town Orders cash on delivery.



## E. G. Wood,

### PHOTOGRAPHIC SETS.

The "**Nonpariel**" Set is well suited for the beginner.

The "**Yachting**" Sets are specially adapted for Instantaneous Photography and Marine Views.

The "**Cycling**" Sets have been arranged after consultation with a well-known Photo-Cyclist.

The "**Engineer's**" sets are designed to meet the requirements of the Engineer and Architect desiring a permanent record of works in progress and machinery.

The "**Traveller's**" sets are arranged for the special purpose of meeting the requirements of Travellers exposed to varying climatic influences.

No. 1. "**Nonpariel**" set comprises a Quarter-plate Camera, Lens, Double Dark Slide, Focussing cloth and Eyepiece, and portable Tripod Stand, all (excepting the Stand Legs) fitted into a Waterproof Sling Case. The Dry Plates, Developing and Printing Materials and apparatus, are carefully packed in a stained and polished Travelling Case, with Book of Instructions.

£2 : 15 : 0

No. 2. "**Cycling**" Set comprises a "Cycling" Camera with three Double Dark Slides, Superior Achromatic Lens, with Rack and Pinion adjustment, a Tripod Stand, or Cycling Clip, Focussing Cloth and Eye Piece, in a Waterproof Sling Case. For plates  $4\frac{1}{4} \times 3\frac{1}{4}$ .

£3 : 3 : 0

No. 2a. **Travelling Case** containing Plates, Developing and Printing Materials, and Apparatus for the above.

£1 : 5 : 0

No. 3. "**Cycling**" Set for plates,  $6\frac{1}{2} \times 4\frac{3}{4}$ .

£5 : 10 : 0

No. 3a. **Travelling Case** containing Plates, Developing and Printing Materials and Apparatus for the above.

£2 : 2 : 0

NOTE.—The Cameras in these Sets are free from the objection of being in separate parts. The Base Board is simply hinged, and requires only to be turned down and bolted.

No. 4. **The Yachting or Instantaneous** Set, comprises an Instantaneous Camera, with three Double Dark Slides, Instantaneous View Lens, with Tripod Stand or Clip, Focussing Cloth and Eyepiece, in Canvas Case For Plates  $4\frac{1}{4} \times 3\frac{1}{4}$ .

£3 : 10 :

No. 4a. **Travelling Case** containing Plates, Developing and Printing Materials, and Apparatus for  $4\frac{1}{4} \times 3\frac{1}{4}$ .

£1 : 5 : 0

74, Cheapside, London, E.C.



## Horne, Thornthwaite & Wood,

No. 5. **The Yachting or Instantaneous Set.** For Plates  $6\frac{1}{2} \times 4\frac{3}{4}$

£6: 0: 0

No. 5a. **Travelling Case** containing Plates, Developing and Printing Materials, and Apparatus,  $6\frac{1}{2} \times 4\frac{3}{4}$

£2: 2: 0

No. 6. **The Engineer's or Traveller's Set** Comprises Portable Tourist Camera with three Double Dark Slides, a Rectilinear Lens, Tripod Stand, Focussing Cloth and Eyepiece, in Solid Leather Sling Case.

For Plates  $4\frac{1}{4} \times 3\frac{1}{4}$

£9: 9: 0

No. 6a. **Travelling Case** containing Plates, Developing and Printing Materials, and Apparatus for above

£4: 5: 0

No. 7. **The Engineer's Set.** For Plates  $6\frac{1}{2} \times 4\frac{3}{4}$

£11: 0: 0

No. 7a. **Travelling Case** containing Plates, Developing and Printing Materials, and Apparatus for above

£5: 5: 0

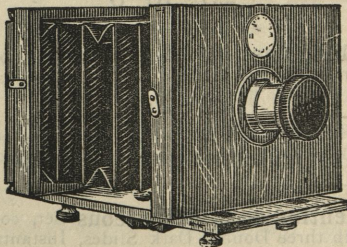
No. 8. **The Engineer's Set.** For Plates  $8\frac{1}{2} \times 6\frac{1}{2}$

£16: 16: 0

No. 8a. **Travelling Case** containing Plates, Developing and Printing Materials, and Apparatus for above

£7: 10: 0

### THE GUINEA CAMERA.



4001 This Camera is of French Polished Mahogany, Bellows Body, Achromatic Lens, Double Dark Slide, for taking two pictures  $4\frac{1}{4} \times 3\frac{1}{4}$ , and Portable Tripod Stand. Price complete ... .. 1 1 0

4001a Extra Double Dark Slides 5s. 6d. each.

4001b **Developing Set** comprising a Packet of Plates, full supply of Chemicals, and Non-Actinic Lamp, for developing pictures taken with the above, in Wooden Box, and Book of Instructions... 0 6 6

416, Strand, London, W.C.



## E. G. Wood,

**4001c Printing Set** with full supply of Chemicals, Sensitive Paper, and Accessories, in Wooden Box ... .. £0 6 6

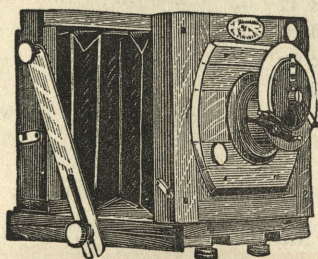
### THE CYCLING CAMERAS.

The "**Cycling**" Cameras are of French Polished Mahogany, having a Bellows-body, and Rising Front, Hinged Focussing Screen, in Reversible Frame, for taking pictures either Vertically or Horizontally, Folding Base Board and Sliding Adjustment. Superior Lens with Rack and Pinion, and Double Dark Slide. Either a Portable Tripod Stand, or a Cycle Clip, is included in the price\*

4004	For Plates $4\frac{1}{2} \times 3\frac{1}{4}$ ... ..	£1 17 6
	Extra Double Dark Slide ... ..	0 7 6
4005	For plates $6\frac{1}{2} \times 4\frac{3}{4}$ ... ..	3 3 0
	Extra Double Dark Slides ... ..	0 12 6

\* The above Cameras are very easily set up—the base board only requires to be unhinged and bolted, and there are no loose parts.

### THE "INSTANTANEOUS" CAMERAS.



Consist of a Superior French Polished Mahogany Bellows-body Camera, having screw adjustment for Focussing, Swing Back, Vertical and Horizontal Sliding Front, One Hinged Double Back, Achromatic View Lens with Instantaneous Shutter, and Set of Rotating Stops, and Mahogany Tripod Portable Stand, or a Cycle Clip.

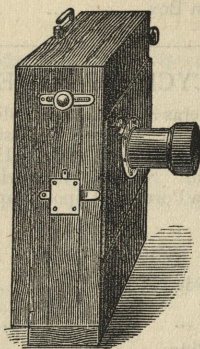
4007	For Plates $4\frac{1}{2} \times 3\frac{1}{4}$ , complete... ..	£2 2 0
	Extra Double Back ... ..	0 7 6
4008	For Plates $6\frac{1}{2} \times 4\frac{3}{4}$ complete... ..	4 4 0
	Extra Double Back ... ..	0 12 6
4009	For Plates $8\frac{1}{2} \times 6\frac{1}{2}$ complete... ..	6 6 0
	Extra Double Back ... ..	1 0 0
4010	Inner frames, or "Carriers," to hold smaller plates are supplied to the half-plate Camera for 1s. 6d.	
4011	Ditto for whole Plate Camera... ..	0 2 6

**74, Cheapside, London, E.C.**



## Horne, Thornthwaite & Wood,

### PORTABLE TOURIST CAMERAS.



**Polished Mahogany Camera**, with Double Rising Front, Double Swing, Folding Base Board, Leather Bellows, Rack Focussing Adjustment, Swing Back, and Three Hinged Double Backs.

4021	For Plates $4\frac{1}{4} \times 3\frac{1}{4}$	...	...	...	...	...	£4	15	0
	Extra Double Back	...	...	...	...	...	0	14	0
4022	For Plates $6\frac{1}{2} \times 4\frac{3}{4}$	...	...	...	...	...	5	15	6
	Extra Double Back	...	...	...	...	...	0	17	6
4023	For Plates $8\frac{1}{2} \times 6\frac{1}{2}$	...	...	...	...	...	7	7	0
	Extra Double Back	...	...	...	...	...	1	1	0

Extra cost of Brass Binding see below.

### PORTABLE CAMERAS.

*Highest Quality. Medal awarded 1885, Inventions Exhibition.*

**French Polished Mahogany Camera**, with Leather Bellows, Vertical and Horizontal Sliding Fronts, Swing Back, Rack and Pinion Adjustment, and three best hinged Double Dark Slides.

In the manufacture of these Cameras the very best workmanship and material have been employed, and they are provided with the latest improvements, so that for lightness and rigidity they cannot be surpassed.

	For Plates	Camera and 3 Backs Single Swing	Camera and 3 Backs Double Swing	Brass Binding extra	Double Dark Backs
4031	$4\frac{1}{4} \times 3\frac{1}{4}$	£5 10 0		£1 10 0	£0 18 0
4032	$6\frac{1}{2} \times 4\frac{3}{4}$	7 5 0	7 17 6	1 10 0	1 2 0
4033	$8\frac{1}{2} \times 6\frac{1}{2}$	8 15 0	9 12 6	1 10 0	1 5 0
4034	10 " 8	10 10 0	11 10 0	1 15 0	1 12 0
4035	12 " 10	12 10 0	13 15 0	2 2 0	2 0 0

Brass Binding to Backs, 4/6 each extra.

**416, Strand, London, W.C.**



## E. G. Wood,

### LONG FOCUS CAMERAS.

**Long-Focus Square Cameras,** Highest Quality, with Double Swing Back working on a central pivot, with Improved Carriage, which cannot alter its position. Reversible Holder and Spring Catch. The Dark Slides are fitted with a New Lock.

This Camera is undoubtedly the most perfect instrument in the market.

	For Plates	Camera and 3 Backs	Brass Binding	Locked Backs
4036	$4\frac{1}{4} \times 3\frac{1}{4}$	£8 0 0	£1 10 0	£1 1 0
4037	$6\frac{1}{2} \text{ " } 4\frac{3}{4}$	10 16 0	1 10 0	1 5 6
4038	$8\frac{1}{2} \text{ " } 6\frac{1}{2}$	12 15 0	1 10 0	1 11 6
4039	10 " 8	14 0 0	1 15 0	1 15 6
4040	12 " 10	18 10 0	2 2 0	2 5 0
4041	15 " 12	23 0 0	2 15 0	3 0 0

**Long Focus Cameras, Medium quality.** These Cameras are well made, and will be found very efficient. They are provided with a rising front and central screw adjustment. The prices include three Double Hinged Backs.

	For Plates					Double Dark Backs.
4042	$4\frac{1}{4} \times 3\frac{1}{4}$	...	...	£4 10 0	...	£0 10 6
4043	$6\frac{1}{2} \text{ " } 4\frac{3}{4}$	...	...	5 10 0	...	0 14 0
4044	$8\frac{1}{2} \text{ " } 6\frac{1}{2}$	...	...	7 7 0	...	0 18 6
4045	10 " 8	...	...	9 9 0	...	1 5 0

### ENLARGING, COPYING AND REDUCING CAMERAS.

Mahogany Body and Leather Bellows, including Lens.

4046	from $3\frac{1}{4}$ square to $8\frac{1}{2} \times 6\frac{1}{2}$ and under	...	...	...	£6 6 0
4047	" 10 " 8 "	...	...	...	8 8 0
4048	" 12 " 10 "	...	...	...	10 10 0

Cheap form, ditto, Twill Bellows, including Lens.

4049	from $3\frac{1}{4}$ square to $8\frac{1}{2} \times 6\frac{1}{2}$ and under	...	...	...	4 10 0
4050	" 10 " 8 "	...	...	...	6 10 0
4051	" 12 " 10 "	...	...	...	8 10 0

### CONDENSERS.

Double-Lens Condensers, for Enlarging.

Diameter	...	...	6 in.	7 in.	8 in.	9 in.	10 in.
Focus	...	...	$4\frac{1}{2}$ "	5 "	6 "	8 "	8 "
Prices	...	...	60/-	75/-	100/-	140/-	200/-

### STEREOSCOPIC CAMERAS.

4052	With Mahogany Sliding Body, rising front, and one Double Dark Slide	...	...	...	...	£4 10 0
	Extra Double Back	...	...	...	...	1 2 6

**74, Cheapside, London, E.C.**



## Horne, Thornthwaite & Wood,

### MICRO-PHOTOGRAPHIC CAMERA.

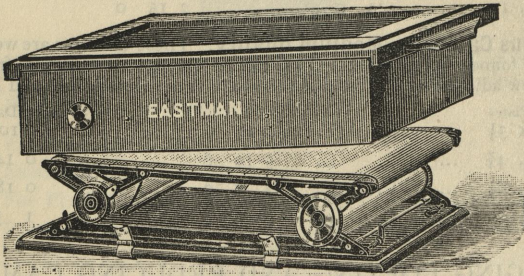
For Enlarging Microscopic Objects up to  $4\frac{1}{4} \times 3\frac{1}{4}$ , and making Micro-Photographs.

4053 Micro-Photographic Camera as above, without objective... £6 6 0

4053a One inch Objective for the above ... .. 1 10

N.B. Ordinary Microscope Objectives can be used with the above instrument.

### EASTMAN'S ROLL HOLDER.

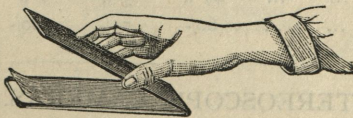


*For 24 Exposures.*

Sizes in inches				Smallest dimensions to which these holders can be cut, in inches				
$3\frac{1}{4} \times 4\frac{1}{4}$	...	...	...	—	...	...	...	£2 0 0
$6\frac{1}{2} \text{ „ } 4\frac{3}{4}$	...	...	...	$6\frac{1}{4} \times 7\frac{5}{8}$	...	...	...	3 0 0
$6\frac{1}{2} \text{ „ } 8\frac{1}{2}$	...	...	...	$8\frac{1}{4} \text{ „ } 9\frac{3}{4}$	...	...	...	4 5 0
8 „ 10	...	...	...	$9\frac{1}{8} \text{ „ } 11\frac{1}{2}$	...	...	...	5 0 0

Moderate prices charged for fitting the above to existing Cameras.

### FILM CARRIERS AND ACCESSORIES.



These are designed for holding the cut sheets of negative paper during exposure in any ordinary dark slide.



# E. G. Wood,

## Film Carriers for dry plate slides.

Sizes									
3¼ × 4¼	...	...	...	...	...	...	...	12/-	per dozen.
4 " 5	...	...	...	...	...	...	...	15/-	"
4¾ " 6½	...	...	...	...	...	...	...	16/-	"
6½ " 8½	...	...	...	...	...	...	...	21/-	"

## Vulcanite sheets for drying Paper negatives on Exact size.

Sizes									
9 × 7	...	...	...	...	...	...	...	...	1/6
13 " 11	...	...	...	...	...	...	...	...	2/6
Squeegees 8 in.	...	...	...	...	...	...	...	...	2/-
" 12 in.	...	...	...	...	...	...	...	...	3/-
Extra Keys	...	...	...	...	...	...	...	...	1/6
" Reels	...	...	...	...	...	...	...	...	3/6
Sample Negatives	...	...	...	...	...	...	...	...	1/-

For further particulars see descriptive paper.

## CASES.

**Cases** with Sling Strap or Handle, to contain Camera, 3 Double Dark Slides, Focussing Cloth, and Eyepiece and Tripod Head.

	Sizes	Leather 1st quality	Leather 2nd quality	Waterproof Bags *
4054	4¼ × 3¼	£1 5 0	£0 15 0	£0 5 6
4055	6½ " 4¾	1 11 6	1 0 0	0 8 0
4056	8½ " 6½	2 2 0	1 5 0	0 10 6

\* For the Better quality Cameras the prices for Waterproof Cases are the same as for 2nd quality leather.

**Boxes, Travelling**, Stained and Varnished, to contain Camera, Dark Slides, Lens, an average quantity of Chemicals and Accessories, fitted to order.

4061	4¼ × 3¼	...	...	...	...	about	£0 17 6
4062	6½ " 4¾	...	...	...	...	"	1 5 0
4063	8½ " 6½	...	...	...	...	"	1 10 0

## CAMERA STANDS.

4071.—**"The Special"**—Best Portable Tripod Stand, Polished Mahogany, Folding Legs, attached Stretchers, Collapsing Triangle Head and Screw. No loose pieces; extra light and steady.

	For Cameras 6½ × 4¾ and under	...	...	...	...	£1 7 6
4072	Ditto 10 " 8 " "	...	...	...	...	1 15 0

**74, Cheapside, London, E.C.**



# Horne, Thornthwaite & Wood,

## CAMERA STANDS—(continued).

Referring to the above Stand, the *British Journal of Photography* says :  
 "One of the most ingenious and at the same time one of the most rigid  
 Tripod Stands hitherto seen."

4073	<b>Folding Ash Tripod</b> with 4-in. Brass Triangle Head...	£0 17 6
4074	Ditto ditto 5-in. Head ... ..	1 0 0
4075	Ditto ditto 8-in. " ... ..	1 7 6

The legs of the above Stand lock, and *cannot collapse* by a jar or kick  
 after being set up.

4079	<b>"Uneven Ground" Stand</b> , French Polished, Sliding Legs, adjust- able to almost any height without spreading, not heavy, brass bound, Wooden Head 4-in. ... ..	0 18 6
4080	Ditto 6-in. ... ..	1 1 0
4081	Ditto 7-in. ... ..	1 7 6
4082	<b>Portmanteau " Stand</b> folding up twice to the length of a small "Gladstone" Bag or Tourist Knapsack. Specially suitable for $\frac{1}{2}$ -plate Cameras and under, and capable of carrying a $\frac{1}{4}$ -Plate in still weather ... ..	1 0 0

4083	<b>The "Maudsley" Sliding Leg Stand</b> , with 4-in Head...	1 1 0
4084	Ditto ditto 6-in " ...	1 3 6
4085	Ditto ditto 8-in " ...	1 10 0

4090	<b>Cheap Stand</b> , White Wood, for $6\frac{1}{2} \times 4\frac{3}{4}$ and under ...	0 9 6
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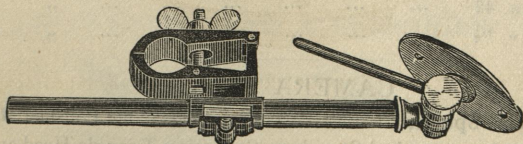
4091	<b>Studio Stand</b> , French Polished Oak or Ash, constructed to meet all the requirements of the operator. The Screw Movements are smooth and wear-resisting, and it forms a handsome and substantial accessory ... ..	5 10 0
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4092	Ditto ditto cheaper make ... ..	3 3 0
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4093	<b>The "Amateur" Studio Stand</b> , in White Wood, well constructed ... ..	1 2 6
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New patterns frequently being added to stock.

## CYCLE CLIP.



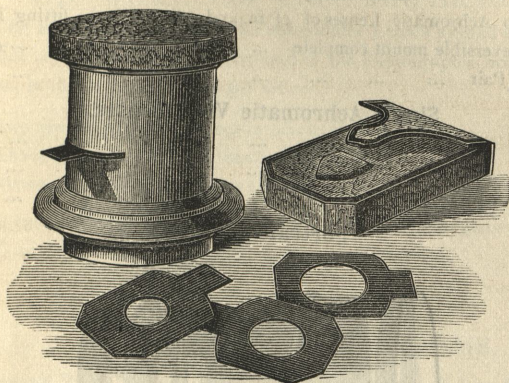
4100	To fit any size Wheel, for $4\frac{1}{4} \times 3\frac{1}{4}$ Camera ... ..	£0 7 6
4101	" " $6\frac{1}{2} \times 4\frac{3}{4}$ " ... ..	0 10 6
4102	" " $8\frac{1}{2} \times 6\frac{1}{2}$ " ... ..	0 15 6

416, Strand, London, W.C.



E. G. Wood,

## LENSES.

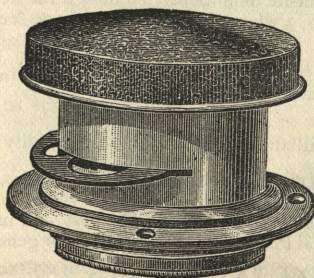


**Quick-acting Rectilinear Doublets** for Instantaneous Views, Groups, Interiors, and Copying.

With the smallest stop they will cover the next size larger plate.

With Waterhouse Diaphragms.

4151	$4\frac{1}{4} \times 3\frac{1}{4}$	...	...	...	...	...	...	...	...	£1 17 6
4152	$6\frac{1}{2} \text{ ,, } 4\frac{3}{4}$	...	...	...	...	...	...	...	...	2 17 6
4153	$8\frac{1}{2} \text{ ,, } 6\frac{1}{2}$	...	...	...	...	...	...	...	...	4 17 6
4154	10 ,, 8	...	...	...	...	...	...	...	...	7 10 0
4155	12 ,, 10	...	...	...	...	...	...	...	...	8 10 0
4156	15 ,, 12	...	...	...	...	...	...	...	...	10 15 0
4157	18 ,, 16	...	...	...	...	...	...	...	...	13 0 0



**Wide Angle Portable Symmetrical Lens** for confined spaces and interiors. Although of very wide angle, the correction for flare and distortion is nearly perfect.

With Revolving Diaphragm.

4158	$4\frac{1}{4} \times 3\frac{1}{4}$	...	...	...	...	...	...	...	£2 2 0
4159	$6\frac{1}{2} \text{ ,, } 4\frac{3}{4}$	...	...	...	...	...	...	...	3 3 0
4160	$8\frac{1}{2} \text{ ,, } 6\frac{1}{2}$	...	...	...	...	...	...	...	5 0 0

74, Cheapside, London, E.C.



## Horne, Thornthwaite & Wood,

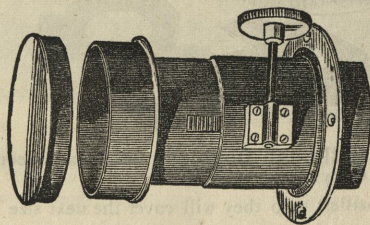
### Stereoscopic View Lenses.

4160a	Two Achromatic Lenses of $4\frac{1}{4}$ in. and $5\frac{1}{4}$ in. focus fitting into one reversible mount complete	...	...	...	...	...	£2 5 0
4160b	Per Pair	...	...	...	...	...	4 4 0

### Single Achromatic View Lenses.

4161	$4\frac{1}{4} \times 3\frac{1}{4}$	...	...	...	...	...	...	0 10 6
4162	$6\frac{1}{2}$ „ $4\frac{3}{4}$	...	...	...	...	...	...	0 17 6
4163	$8\frac{1}{2}$ „ $6\frac{1}{2}$	...	...	...	...	...	...	1 7 6

### Portrait Lenses.



Double Achromatic, with Rack and Pinion adjustment, and set of Diaphragms							
4164	Carte de Visite or $4\frac{1}{4} \times 3\frac{1}{4}$	...	...	...	...	...	£1 12 6
4165	Cabinet „ $6\frac{1}{2}$ „ $4\frac{3}{4}$	...	...	...	...	...	3 10 0
4166	Promenade „ $8\frac{1}{2}$ „ $6\frac{1}{2}$	...	...	...	...	...	8 10 0

### LENSES BY ROSS.

**Quick-acting C.-D.-V. Lenses.** These lenses give very rapid results with brilliancy and exquisite definition. To obtain the best results it is desirable to use the No. 3 when the Studio exceeds 20 feet in length.

Nos.	...	...	1	2	3
Focus	...	...	$4\frac{1}{2}$ -in	$4\frac{3}{4}$ -in.	6 in
Price	...	...	£5 15 0	£6 10 0	£11 10 0

Brilliant definition and great rapidity.

**Rapid Symmetrical Lenses** for Groups, Views, Interiors, and every kind of Outdoor Photography. The Rapid Symmetricals, being aplanatic, work with full aperture, and are, perhaps, the best and most useful Lenses an Amateur or Professional Photographer can possess for general outdoor purposes.

Views	$3 \times 3$	$4\frac{1}{4} \times 3\frac{1}{4}$	$5 \times 4$	$6 \times 5$	$8 \times 5$	$8\frac{1}{2} \times 6\frac{1}{2}$	$9 \times 7$	$10 \times 8$	$12 \times 10$	$13 \times 11$
Groups	Stero.	$4\frac{1}{4} \times 3\frac{1}{4}$	$5 \times 4$	$7\frac{1}{4} \times 4\frac{1}{2}$	$8 \times 5$	$8\frac{1}{2} \times 6\frac{1}{2}$	$9 \times 7$	$10 \times 8$	$12 \times 10$	
Focus	3in.	$4\frac{1}{2}$ in.	6in.	$7\frac{1}{2}$ in.	9in.	$10\frac{1}{2}$ in.	12in.	14in.	16in.	18in.
Prices	£3 10	£4	£4 5	£5 5	£5 15	£6 10	£7 10	£8 10	£10 10	£11 10

Etc., etc., etc.

10 % Discount allowed for Cash with order off Prices of Ross Lenses.

416, Strand, London, W.C.



## E. G. Wood,

### THE STANDARD UNIT DIAPHRAGMS.

The Existing Diaphragms of Photographic Lenses altered and numbered exact accordance with the standard of the Photographic Society of Great Britain, at the following prices per set :—

	s.	d.
Any size lens up to 2 inches in diameter ... ..	6	0
Above 2 inches and not exceeding $2\frac{1}{2}$ inches ... ..	7	6
Above $2\frac{1}{2}$ inches and under $3\frac{1}{2}$ inches ... ..	10	6

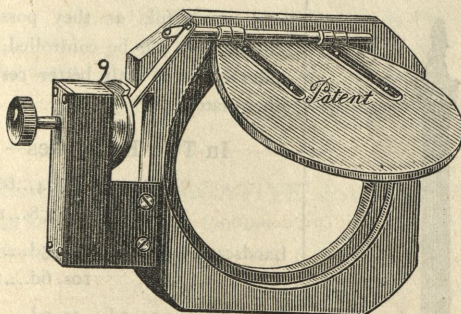
In cases when a new stop has to be supplied to complete the series, 1s., 1s. 3d., or 1s. 6d. should be added to the above prices.

### WATERHOUSE DIAPHRAGMS.

Portrait Lens Mounts cut and fitted with set of four Standard Unit Diaphragms, in case :—

	s.	d.
$\frac{1}{4}$ plate ... ..	10	6
$\frac{1}{2}$ " ... ..	12	6
$\frac{1}{1}$ " ... ..	15	0

### INSTANTANEOUS SHUTTERS.



- 4171 **The "Economic"**—a very rapid and compact snap shutter. May be carried in the vest pocket ; recommended for Races, Express Trains, &c., for Hoods of diameter,  $1\frac{1}{2}$  in. 18s. 6d., and 2 in. 21s.
- 4172 **The "Phantom" Shutter** adapted to Lenses with Hood—  
Of diameter of Hood  $1\frac{1}{2}$  in. 16s. 6d. 2 in. 21s.  $2\frac{1}{2}$  in. 25s.
- 4173 **Pneumatic Ball and Tube** ... .. extra 6s. 6d.



## Horne, Thornthwaite & Wood,

- 4174 **White's Shutter.**—This new Shutter is the most simple and efficient that has been designed. It allows the longest exposure to the foreground of the picture ; it has one point of absolute rest for exposure, and may be used either with or without the Pneumatic Ball and Tube.

For Hoods of diameter,  $1\frac{1}{2}$  in. 12s., 2 in. 16s.,  $2\frac{1}{2}$  in. 20s.

Pneumatic Ball and Tube extra, 5s.

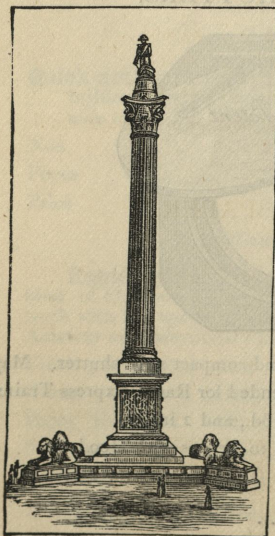
- 4175 **New Drop Shutter** allowing prolonged exposures, if desired. Very useful for all purposes except races and trains. Complete with Pneumatic Ball and tube. For Hoods of diameter  $1\frac{1}{2}$  in. 21s., 2 in. 25s.,  $2\frac{1}{2}$  in. 32s. 6d.
- 4176 **The "Cheap" Drop shutter**, polished mahogany. For Hoods of diameter  $1\frac{1}{2}$  in. 7s. 6d., 2 in. 8s. 6d.,  $2\frac{1}{2}$  in. 10s.

### ENLARGING LANTERNS.

**Enlarging Lanterns** fitted with Condenser, Paraffin Lamp and Achromatic Objective.

- |      |   |     |     |     |     |         |
|------|---|-----|-----|-----|-----|---------|
| 4190 | With 5 in. Condenser...   | ... | ... | ... | ... | £3 10 0 |
| 4191 | " 6 in. " and $\frac{1}{2}$ Plate Objective...                              | ... | ... | ... | ... | 6 6 0   |
| 4196 | Highly finished and most complete Enlarging Apparatus, with 5 in. Condenser | ... | ... | ... | ... | 8 8 0   |
| 4197 | Ditto ditto 7 in. ditto   | ... | ... | ... | ... | 12 0 0  |

### WOOD'S "TRAFALGAR" DRY PLATES.



These plates in the hands of amateurs are most successful, as they possess enormous latitude, and can be controlled, when over or under exposed, with better results than any other plates.

#### In Two Rapidities—

$$4\frac{1}{2} \times 3\frac{1}{4} \dots 5 \times 4 \dots 6\frac{1}{2} \times 4\frac{3}{4} \dots 8\frac{1}{2} \times 6\frac{1}{2} \\ 10 \times 8 \dots 12 \times 10$$

Landscape ... 1s. 6d....2s. 3d....3s. 6d....6s. od.  
ros. 6d....15s. od.

Instantaneous 2s. od....3s. od....4s. 6d....8s. 6d.  
12s. 6d....21s. od.

*Trafalgar Plates*, specially prepared for use in hot climates to order.

Intermediate Sizes to Order.

Instructions for Manipulation on each Packet.



## E. G. Wood,

### TRAFALGAR LANTERN TRANSPARENCY PLATES.

These Plates are very easy to manipulate, and enable the tourist to prepare slides for the Optical Lantern; so that views taken on a summer tour may be thrown upon the screen, and afford infinite satisfaction both to the tourist and to friends during the long winter evenings.

**Trafalgar Chloride Set.**—1 Dozen Plates,  $3\frac{1}{4} \times 3\frac{1}{4}$ , with Chemicals, Glasses, Instructions, &c., for producing Finished Slides, 12s. 6d.

**Plates per doz. 1s. 6d., by post, 1s. 9d.**

Larger sizes Coated to order.

Special Pressure Frame, 5s.

### PLATES BY OTHER MAKERS.

	$4\frac{1}{4} \times 3\frac{1}{4}$	$5 \times 4$	$6\frac{1}{2} \times 4\frac{3}{4}$	$8\frac{1}{2} \times 6\frac{1}{2}$	$10 \times 8$	$12 \times 10$
Britannia	1s. 6d.	2s. 0d.	3s. 0d.	5s. 6d.	10s. 6d.	15s. 0d.
(rapid)						
Edwards'	2s. 3d.	3s. 0d.	4s. 6d.	8s. 0d.	12s. 0d.	21s. 0d.
England's	2s. 0d.	3s. 0d.	5s. 0d.	8s. 6d.	14s. 0d.	20s. 6d.
Fry's 20	1s. 8d.	1s. 10d.	4s. 0d.	7s. 6d.	12s. 0d.	17s. 6d.
Paget's 30	2s. 0s.	3s. 0d.	4s. 6d.	8s. 6d.	12s. 6d.	13s. 0d.
Wrattan's	2s. 6d.	3s. 6d.	5s. 6d.	1s. 0d.	15s. 0d.	22s. 0d.
Do. Ord.	2s. 4d.	3s. 4d.	5s. 3d.	10s. 0d.	13s. 6d.	18s. 6d.

### OPAL PLATES (SENSITIZED).

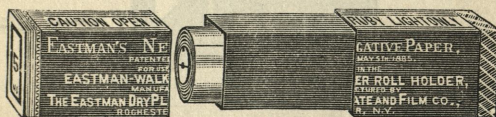
	$4\frac{1}{4} \times 3\frac{1}{4}$	...	$6\frac{1}{2} \times 4\frac{3}{4}$	...	$8\frac{1}{2} \times 6\frac{1}{2}$	
Per $\frac{1}{2}$ dozen	...	3s. od.	...	5s. od.	...	8s. 6d.
Per $\frac{1}{4}$ dozen	...	1s. 9d.	...	3s. od.	...	4s. 9d.

**Postage.**—In remitting for plates the price of postage or carriage should be included.

### EASTMAN NEGATIVE PAPER.

**Cut Sheets** for use in the Film Carriers—

$3\frac{1}{4} \times 4\frac{1}{4}$	two dozen in box packed flat	...	...	...	...	£0 2 6
4	" 5	"	"	"	...	0 3 6
$4\frac{3}{4}$	" $6\frac{1}{2}$	"	"	"	...	0 5 6
$6\frac{1}{2}$	" $8\frac{1}{2}$	"	"	"	...	0 10 0
8	" 10	"	"	"	...	0 14 0
10	" 12 one dozen in box	...	...	...	...	0 10 6



**74, Cheapside, London, E.C.**



# Horne, Thornthwaite & Wood,

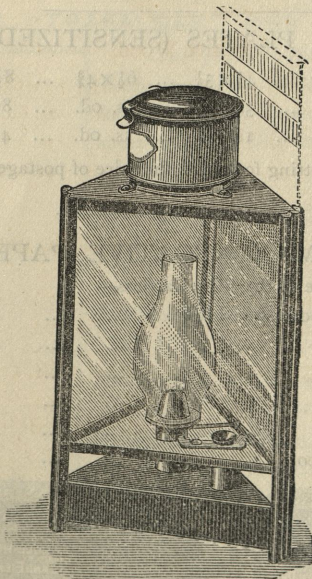
Spools to fit the Eastman Walker Roll holder—

3 $\frac{1}{4}$ inch for	24	3 $\frac{1}{4}$ × 4 $\frac{1}{2}$ exposures	...	...	... £0 3 0
4 "	"	4 " 5 "	...	...	... 0 4 0
4 $\frac{3}{4}$ "	"	4 $\frac{3}{4}$ " 6 $\frac{1}{2}$ "	...	...	... 0 6 6
5 "	"	5 " 8 "	...	...	... 0 8 0
6 $\frac{1}{2}$ "	"	6 $\frac{1}{2}$ " 8 $\frac{1}{2}$ "	...	...	... 0 11 0
8 "	"	8 " 10 "	...	...	... 0 16 0

## DISHES.

	For Plates.	Vulcanite. Slight ribs on bottom.	Porcelain.	Ditto, deep.
4236	3 $\frac{1}{4}$ × 3 $\frac{1}{4}$ ...	... £0 0 7 ...	... £0 0 0 ...	... £0 0 0
4237	4 $\frac{1}{4}$ " 3 $\frac{1}{4}$ ...	... 0 0 8 ...	... 0 0 7 ...	... 0 0 8
4238	5 " 4 ...	... 0 0 10 ...	... 0 0 8 ...	... 0 0 10
4239	6 $\frac{1}{2}$ " 4 $\frac{3}{4}$ ...	... 0 1 0 ...	... 0 0 8 ...	... 0 1 0
4240	8 $\frac{1}{2}$ " 6 $\frac{1}{2}$ ...	... 0 2 0 ...	... 0 1 0 ...	... 0 1 2
4241	10 " 8 ...	... 0 3 0 ...	... 0 1 3 ...	... 0 1 6
4242	12 " 10 ...	... 0 4 0 ...	... 0 2 0 ...	... 0 3 6
4243	15 " 12 ...	... 0 7 6 ...	... 0 6 6 ...	... 0 9 0

## NON-ACTINIC LANTERNS.



4250	Candle	...	...	... £0 3 0
4251	Oil	...	...	... 0 2 0

416, Strand, London, W.C.

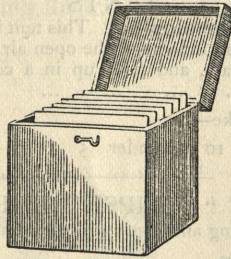


# E. G. Wood,

## NON-ACTING LANTERNS—(Continued).

4252	Folding-pocket	...	...	...	...	...	£0	4	6
4253	Ditto	Large size	...	...	...	...	0	7	6
4254	Extra light, each	...	...	...	...	2d. and	0	0	4
4255	"Perfection" Paraffin	...	...	...	...	...	0	10	6
4256	H. T. & W.'s Square Lantern for Oil, having three panes of Ruby Glass. Strongly recommended...	...	...	...	...	...	0	4	6

## PLATE BOXES.



### White Wood.

		$4\frac{1}{2} \times 3\frac{1}{4}$	$5 \times 4$	$6\frac{1}{2} \times 4\frac{3}{4}$	$8\frac{1}{2} \times 6\frac{1}{2}$	$10 \times 8$	$12 \times 10$
4325	12 Grooves...	1s. 3d.	1s. 9d.	2s. 0d.	2s. 6d.	4s. 0d.	5s. 0d.
4326	24 "	1s. 9d.	2s. 3d.	2s. 6d.	3s. 3d.	5s. 0d.	6s. 0d.
4327	50 "	2s. 3d.	2s. 6d.	3s. 0d.	4s. 6d.	6s. 0d.	8s. 6d.

Other sizes to order.

### Cardboard. Fitted with metallic grooving.

		$4\frac{1}{2} \times 3\frac{1}{4}$	$5 \times 4$	$6\frac{1}{2} \times 4\frac{3}{4}$	$8\frac{1}{2} \times 6\frac{1}{2}$
4328	12 Grooves, each...	...	os. 6d.	os. 7d.	os. 8d.
	" per dozen	...	5s. 6d.	6s. 6d.	7s. 6d.

### Light, tight, with sliding lid, stained wood, 12 grooves.

		$4\frac{1}{2} \times 3\frac{1}{4}$	$5 \times 4$	$6\frac{1}{2} \times 4\frac{3}{4}$	$8\frac{1}{2} \times 6\frac{1}{2}$
4334	...	...	3s. 6d.	4s. 0d.	4s. 6d.
4335	Lock and key, 1s. 6d. extra.	...	...	...	7s. 6d.

### Light, tight, French polished, mahogany or walnut, with lock and key.

		$4\frac{1}{2} \times 3\frac{1}{4}$	$5 \times 4$	$6\frac{1}{2} \times 4\frac{3}{4}$	$8\frac{1}{2} \times 6\frac{1}{2}$	$10 \times 8$
4340	12 Grooves	6s. 0d.	7s. 0d.	8s. 0d.	10s. 6d.	14s. 0d.
4341	24 "	8s. 0d.	9s. 0d.	10s. 0d.	12s. 0d.	16s. 6d.

74, Cheapside, London, E.C.



4361	<b>Scales and Weights</b> , with steel beam, set of weights from 2 drams to $\frac{1}{2}$ -grain, brass pans, in oak box ... ..	£0	2	6
4362	Superior beam, weights, glass pans, in oak box ... ..	0	3	6
4363	<b>Bench Scales</b> , without chains or cords, having pans (one removable), balanced from beneath, with set of weights $\frac{1}{4}$ -oz. to 1-lb. ... ..	0	15	9
4365	<b>Stand Scales</b> , oval box-end, steel beam, with weights, brass pillar and glass movable pan, fitting into drawer of polished mahogany stand ... ..	1	16	
4370	Set of 3 weights, $\frac{1}{4}$ -oz., $\frac{1}{2}$ -oz., and 1-oz. ... ..	0	0	6
4371	Do. grain weights, $\frac{1}{2}$ -gr. to 100 grs. ... ..	0	1	6

4385	<b>Tent, Portable Developing.</b> This tent is so devised that it may be fitted up indoors or the open air. It stands 6 ft. high, is 3 ft. square, and folds up in a compact form for travelling	...	...	...	...	...	...	4	5
4386	<b>Tent, Special Make—</b>								
	For plates 12 × 10 and under	5	5	0	Extra strong	...	6	6	0

4387	For changing plates .....	I 5 0
4388	" and developing .....	I 15 0

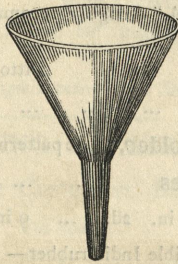
4390	For $8\frac{1}{2} \times 6\frac{1}{2}$ plates and under, adjustable	...	...	...	£0 10 0
4391	For 12 " 10 " "	...	...	...	0 14 6
	Ditto not adjustable, for 50, each $\frac{1}{4}$ and $\frac{1}{2}$ plate	...	...	...	0 18 6
4392	For $4\frac{1}{4} \times 3\frac{1}{4}$ plates only...	...	...	...	0 7 6
4393	Do. $6\frac{1}{2}$ " $4\frac{1}{4}$ ditto	...	...	...	0 8 6
4394	Do. $8\frac{1}{2}$ " $6\frac{1}{2}$ ditto	...	...	...	0 9 6



# E. G. Wood,

## PHOTOGRAPHIC SUNDRIES.

4400	Background, drab cloth, 2 yards square	...	...	...	£1 1 0
4401	Ditto artistically painted, rustic interiors, &c., from	...	...	...	1 10 0
4402	Chamois Leather, selected	...	...	...	0 2 6
4403	Corundum Files	...	...	...	0 0 6 to 0 1 6
4404	Developing Cups, set of three, Glass	...	...	...	0 1 6
4405	Ditto Ditto Ebonite	...	...	...	0 2 6
4406	Dropping Bottles	...	...	...	0 1 6
4407	Ditto (small)	...	...	...	0 1 0
			12 Grooves.	24 Grooves.	
4408	Drying and Draining Rack, for Plates $6\frac{1}{2} \times 4\frac{3}{4}$	...	...	...	0 2 3
4409	Ditto ditto ditto $8\frac{1}{2} \times 6\frac{1}{2}$	...	...	...	0 3 6
4410	Diamonds, cutting	...	...	...	0 18 0 and 1 5 0
4411	Ditto writing	...	...	...	0 7 6 „ 0 12 6



### Funnels, Glass—

	Inches diameter	...	2	3	4	5	6	8
4413	Each	...	3d.	4d.	6d.	9d.	1s.	1s. 6d.

### Filter Papers ready cut—

	Inches diameter	...	...	6	$7\frac{1}{2}$	10	13
4414	Per Packet of 100	...	...	8d.	10d.	1s. 2d.	1s. 8d.

4415	Filter Paper	...	...	...	per quire	£0 1 0
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4416	<b>Focussing Cloth.</b> —Black Waterproof “Zephyr,” soft close-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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4417	Ditto Black Fabric	...	...	...	...	0 1 6
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4417a	Ditto Black Velvet	...	...	...	...	0 5 6
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4418	Focussing Eye-piece, in lacquered brass	...	...	...	...	0 1 0
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4419	Ditto with clamping-ring	...	...	...	...	0 2 6
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4419a	Ditto Aplanatic—giving a remarkably flat field	...	...	...	...	0 4 6
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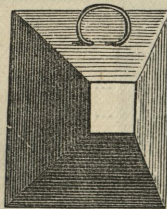


# Horne, Thornthwaite & Wood,



## Graduated Measures—

	2 dram.	1 oz.	2 oz.	5 oz.	10 oz.	20 oz.	40 oz.
4420	rod.	rod.	is.	is. 6d.	2s.	3s.	3s. 6d.
4421	Levels, brass and nickel-plated, from...				...	...	£0 2 0
4422	Ditto ditto circular pattern...				...	...	0 3 6
4423	Ditto ditto pocket, in boxwood case...				...	...	0 1 0
4423a	Non-Actinic Media, Ruby or Canary				...	per yard	0 1 6
4423b	Ditto Paper, ...				...	per sheet	0 0 2
4423c	Pipettes, set of 3, graduated to deliver $\frac{1}{4}$ or $\frac{1}{2}$ draw, and marked "P. B. & A."—Highly recommended for use in developing						...
						per set	0 2 0
						each	0 0 9
4423d	Plate-lifters				...	per pair	0 0 2
4424	Pneumatic Plate-holder, Globe pattern, solid India-rubber						0 3 6
4429a	Standard Negatives				...	each	0 0 9
4430	Stirring Rods...		6 in. 2d.	...	9 in. 3d.	...	12 in. 4d.
4431	Water Bottles, flexible India-rubber—						
	3 quarts	10s. 6d.	...	4 quarts	15s. 6d.	...	8 quarts 1 2 6



4432	View Metres, correctly constructed in black japanned metal, each						
	...	...	...	...	...	...	£0 1 6

In ordering, the equivalent focus and the size of plate the lens covers must be given, or the complete lens should be sent.

416, Strand, London, W.C.



## E. G. Wood,

### MATERIALS FOR PRODUCING LANTERN SLIDES.

4433	Box of Water Colors, containing 6 colors, brushes and varnish ... ..	0	2	6
4434	Ditto 10 colors ... ..	0	5	0
4435	Ditto 8 colors, better quality, in mahogany box	0	10	6
4436	Easel for painting slides upon ... ..	0	2	6
4437	Book on Slide Painting ... ..	0	1	0
4438	Glasses, $3\frac{1}{4} \times 3\frac{1}{4}$ , per gross ... ..	0	5	0
4439	Do. $4\frac{1}{4} \times 3\frac{1}{4}$ do. ... ..	0	6	0
4440	Mats ... ..	0	0	6
4441	Do. ... ..	per gross	0	4
4442	Binding Paper... ..	per sheet	0	0
4443	Ditto gummed strips ... ..	per dozen	0	0
4444	Ditto ditto ... ..	per gross	0	2
4445	Lantern Transparencies made from Negatives... each	0	2	0
4446	Ditto. from Engravings or Photographs	0	3	0
4427	Trafalgar Chloride Plates for making Lantern Transparencies ... ..	per dozen	0	1

*For full particulars of Magic Lanterns and Slides see separate Catalogue.*

### DEVELOPING EXPOSED PLATES.

(At Customers' Risk.)

			Per dozen.				Under a dozen.
$4\frac{1}{4} \times 3\frac{1}{4}$	...	...	0	4	6	...	0 0 6 each
$6\frac{1}{2} \times 4\frac{3}{4}$	...	...	0	6	6	...	0 0 9 "
$8\frac{1}{2} \times 6\frac{1}{2}$	...	...	0	8	6	...	0 1 0 "

The above prices are as low as possible for careful manipulation. It will be readily understood that it can be no easy task for an operator to develop plates the exposure of which he knows nothing.

### RETOUCHING.

The careful Retouching of a portrait negative very much enhances the beauty of the print. Many defects of the skin and hard facial furrows are removed and softened down. Defects in the film may also be remedied.

Full length C.-D.-V. ... .. 6d. Head and bust C.-D.-V. ... .. 1s.  
 1 in. heads ... .. 1s. 6d.  $1\frac{1}{2}$  ... .. 2s. 6d.

Special prices for groups and parcels of negatives.

**74, Cheapside, London, E.C.**



## Horne, Thornthwaite & Wood,

### PRINTING FROM CUSTOMERS' NEGATIVES.

H., T. & W. exercise every possible care in manipulating their customers' Negatives ; but they do not hold themselves responsible for breakage.

Prints from parcels of Negatives charged at the rate per dozen.

Cloud effects charged as "Vignettes."

Extra charges are made for cleaning, spotting-out holes in the film, or varnishing.

Size.	Per dozen.		Under half dozen.	
	s.	d.	s.	d.
Carte-de-Visite ... .. plain	2	0	...	0 2½ each.
Do. ... .. Vignette	2	6	...	0 3 "
¼-plate ... .. plain	2	6	...	0 3 "
Do. ... .. Vignette	3	0	...	0 3½ "
5 × 4 ... .. plain	3	6	...	0 4 "
Do. ... .. Vignette	4	0	...	0 4½ "
Cabinet or ½ plate ... .. plain	4	0	...	0 5 "
Do. ... .. Vignette	5	0	...	0 6 "
7½ × 5 ... .. plain	6	6	...	0 7 "
Do. ... .. Vignette	7	6	...	0 8 "
8½ × 6½ ... .. plain	7	6	...	0 8 "
Do. ... .. Vignette	8	6	...	0 9 "
10 × 8 ... .. plain	10	0	...	1 0 "

### ENLARGEMENTS.

Mounted on Card.

On Opal.

	s.	d.		s.	d.
12 × 10 ... .. 5 0	8½ × 6½	...	...	8	0
15 " 12 ... .. 7 6	10 " 8	...	...	10	0
20 " 16 ... .. 10 0	12 " 10	...	...	12	6

Frames, suitable for above, to order.

### MOUNTING, SPOTTING & ROLLING PRINTS.

			Per dozen.		Each.
			s.	d.	s. d.
Carte-de-Visite ... on plain cards	...	...	1	6	0 2
Do. ... bevelled "	...	...	2	0	0 2½
Cabinet ... plain "	...	...	2	6	0 3
Do. ... bevelled "	...	...	3	0	0 3½
½-plate, on 11½ × 9 ... plain	"	...	3	9	0 4
Do. 10 " 7½ Oxford	"	...	4	9	0 5
¼-plate, on 14 " 10½ plain	"	...	5	0	0 6
Do. 14 " 10½ Oxford	"	...	6	0	0 7

India, tinted, bordered cards, passepartout, and other mounts to order.\*

**416, Strand, London, W.C.**



## E. G. Wood,

### PHOTOGRAPHIC PAPERS.

							s.	d.
4450	<b>Albuminized Paper</b> , best quality only	...	...	...	...	per quire	7	6
4451	<b>New Ready Sensitized</b> , long keeping, prints rapidly, and yields more variety in tones than any other Ready Sensitized paper	...	...	...	...	per quire, pink	13	6
4452	Ditto	...	...	...	...	half-quire	7	0
4453	Ditto	...	...	...	...	quarter-quire	4	0
4454	Ditto	...	...	...	...	single sheet	0	10
4455	Ditto	...	...	...	...	single sheet per post	1	0

White or Mauve per quire only. Quotations for quantity.

### READY-CUT SENSITIZED PAPER.

							s.	d.
4461	One sheet cut to 42 C.-D.-V.	...	...	...	...	...	1	0
4462	" " 20 Quarter plate	...	...	...	...	...	1	0
4463	" " 15 Cabinet	...	...	...	...	...	1	0
4464	" " 10 Half plate 6 × 4	...	...	...	...	...	1	0
4464a	" " 6 Whole plate	...	...	...	...	...	1	0

### GELATINO-BROMIDE PAPERS FOR RAPID CONTACT PRINTING AND ENLARGEMENTS.

(MORGAN & KIDD'S.)

							s.	d.
4465	Sample Sheet, 23 × 17	...	...	...	...	...	1	6
4466	Ditto	...	...	...	...	per post	1	8
4467	Six Sheets 23 × 17	...	...	...	...	...	7	6
4468	Ditto 15 " 12	...	...	...	...	...	4	6
4469	Ditto 12 " 10	...	...	...	...	...	3	6

### EASTMAN'S (A) SMOOTH SURFACE, THIN PAPER ; (B) SMOOTH SURFACE, HEAVY PAPER ; (C) ROUGH SURFACE, HEAVY PAPER.

These papers may be used for positive printing or copying drawings by contact ; for enlargements, plain or working up in crayon, ink, water colors or oils, according as the taste or judgment of the operator may suggest.

#### ALL ONE PRICE.

	Size.							s.	d.
4480	4½ × 3¼	...	...	...	...	...	12 sheets	0	8
4481	5 " 4	...	...	...	...	...	"	0	11
4482	6½ " 4¾	...	...	...	...	...	"	1	8
4483	8½ " 6½	...	...	...	...	...	"	2	6
4484	10 " 8	...	...	...	...	...	"	3	6
4485	12½ " 10½	...	...	...	...	...	"	6	0
4486	15½ " 12½	...	...	...	...	...	"	7	6
4487	23 " 17	...	...	...	...	...	"	14	0

Full directions in each package.

**74, Cheapside, London, E.C.**



## Horne, Thornthwaite & Wood,

### FERRO-PRUSSIATE OR "HELIOGRAPHIC" PAPER.

For producing blue prints from negatives, and reproducing plans from tracing paper.

No TONING. No FIXING. REQUIRES WASHING ONLY.

**Directions:** Handle in subdued light. Expose under negative, or tracing, in pressure frame. Print deeply in strong light. Wash until the whites show purely.

4591	Per Roll of 10 yards	...	Extra thin	...	28 in. wide	£0 9 6
4592	Ditto	...	Thin	...	27½ "	0 6 6
4593	Ditto	...	Thick	...	25½ "	0 6 6
4594	Ditto	...	Ditto	...	29½ "	0 7 6
4595	Ditto	...	Ditto	...	36 "	0 9 6
4596	Sample Sheet	...	...	...	18×36 post free	0 1 0

### HUTINET'S' BRILLIANT GELATINO-BROMIDE PAPER.

For Enlargements and Positive Printing.

4600	Per Roll of 33 feet 0 inches × 29½ inches	...	...	...	£2 2 0
4601	Ditto 16 do. 6 do. "	"	"	...	1 1 0
4602	Ditto 8 do. 3 do. "	"	"	...	0 11 0
4603	Sample Roll of 8 sheets 7½ " 9½ "	"	"	...	0 3 0

### PRINTING FRAMES.

**Teak**, extra strong, well finished, hinged back, brass springs, round corners, and screwed.

		4¼×3¼	5×4	6½×4¾	8½×6½	10×8	12×10
4630	Per dozen	7s. 6d.	9s. 6d.	15s. 0d.	£1 10 0	2 5 0	2 12 6
4631	Each	os. 8d.	os. 10d.	1s. 4d.	2s. 9d.	4s. 0d.	4s. 6d.

Other sizes in proportion. India-rubber Cushions, &c., to order.

### MOUNTS.

**Carte de Visite.** 4-SHEET.

					Per 100.	Per doz.
					s. d.	s. d.
PLAIN, and Various Tints	...	...	...	...	1 0	0 2
RED LINE	...	...	...	...	1 2	0 3
ENAMEL, Various Tints	...	...	...	...	1 2	0 3
Do. Red Line	...	...	...	...	1 4	0 4
CHOCOLATE AND OLIVE, Plain	...	...	...	...	1 3	0 4
CHOCOLATE AND BLACK, Gold Bevelled	...	...	...	...	4 0	0 6

416, Strand, London, W.C.



# E. G. Wood,

## MOUNTS—(Continued).

### Cabinet. 5-SHEET.

						Per 100.	Per doz.
						s. d.	s. d.
PLAIN, and Various Tints	...	...	...	...	...	3 0	0 5
RED LINE	...	...	...	...	...	3 6	0 5
ENAMEL, Various Tints	...	...	...	...	...	3 6	0 6
Do. Red Line	...	...	...	...	...	4 0	0 7
CHOCOLATE AND OLIVE, Plain	...	...	...	...	...	4 0	0 7
CHOCOLATE AND BLACK, Gold Bevelled	...	...	...	...	...	7 6	1 2

### View Mounts, with round corners, in various tints, with fine margin.

Size of Mount.						Per 100.	Per doz.
						s. d.	s. d.
$4\frac{1}{4} \times 3\frac{1}{4}$	...	...	...	...	...	2 0	0 4
5 " 4	...	...	...	...	...	2 6	0 5
$6\frac{1}{2}$ " $4\frac{3}{4}$	...	...	...	...	...	3 6	0 7
$7\frac{1}{2}$ " 5	...	...	...	...	...	5 6	0 10
$8\frac{1}{2}$ " $6\frac{1}{2}$	...	...	...	...	...	8 0	1 3
10 " 8	...	...	...	...	...	12 0	2 0

### Oxford Line View Mounts—Cream.

Size of Mount.	Size of Line					s. d.	s. d.
8 × 6	$5\frac{1}{4} \times 3\frac{3}{4}$	...	...	...	...	4 6	0 8
$8\frac{1}{2}$ " $6\frac{1}{2}$	$6\frac{1}{4}$ " $4\frac{3}{4}$	...	...	...	...	4 9	0 9
$9\frac{1}{2}$ " 8	$6\frac{1}{2}$ " $5\frac{1}{4}$	...	...	...	...	6 0	1 0
12 " 10	$9\frac{1}{2}$ " $7\frac{1}{2}$	...	...	...	...	10 0	1 4
15 " 12	$10\frac{1}{2}$ " $8\frac{1}{4}$	...	...	...	...	14 6	2 0

### Other Sizes and Tints to Order.

## PRINTING SUNDRIES.

4680	Bath Tester, Hydrometer form, with solution jar, in case	£0 3 6
4681	Ditto Graduated tube, very easy to use	0 2 6
4682	Brushes, camel hair, for dusting, 1 in. 8d. 2 in. 1s. 4 in. 2s	
	Ditto For spotting, &c. 2d. 3d. 4d.	
4683	Ditto Bristle, for mounting	6d. and 0 0 9
4684	Burnisher, making prints equal to enamelled, giving a fine glossy surface, and rendering them more durable. Complete with lamp for $8\frac{1}{2} \times 6\frac{1}{2}$ and under	1 15 0
4684a	Colors, Aniline, for tinting Photographs, in case with brushes, each	0 7 0

74, Cheapside, London, E.C.



## Horne, Thornthwaite & Wood,

### PRINTING SUNDRIES—(Continued).

#### Cutting Shapes—

	C-D-V.	$4\frac{1}{2} \times 3\frac{1}{4}$	$5 \times 4$	Cabinet	$6\frac{1}{2} \times 4\frac{3}{4}$	$8\frac{1}{2} \times 6\frac{1}{2}$
4685	6d.	9d.	1s. od.	1s. 3d.	1s. 6d.	2s. od.
4685	Best	—	—	—	—	—
4686	<b>Cutting Table</b> , Revolving, for trimming prints				9s. 6d. to £0 15	6
4689	<b>Clips</b> for suspending paper				per dozen	0 0 10
4690	<b>Cloud Negatives</b> $6\frac{1}{2} \times 4\frac{3}{4}$ 1s. 6d.				8 $\frac{1}{2} \times 6\frac{1}{2}$ 2s. ... 10 $\times$ 8	0 3 0
4692	<b>Finger Stalls</b>				per dozen	0 3 0
4693	<b>Forceps</b> (Vulcanite)				each	0 0 9
4694	<b>Knives</b> , for trimming prints, in case				„	0 1 0
4695	<b>Masks and Disks</b> , per box, 6 doz. C-D-V., 1s.,					
4695	Ditto Cabinets 3 doz.				per bottle 1s. and	0 1 0
4696	<b>Mounting Medium</b>				per bottle 1s. and	0 2 0
4697	<b>Rolling Presses</b>				from	3 0 0
5697a	<b>Retouching Desk</b> , with Revolving Mirror, spotting board, screen, and drawer for pencils, suitable for retouching					
	$\frac{1}{4}$ plate to 10 $\times$ 8				...	1 5 0
4698	<b>Retouching Pencils</b> (Faber's) in wood				...	0 0 4
4699	Leads in holder				...	0 0 9
4700	Leads per box				...	0 1 0
4701	each				...	0 0 3
4702	<b>Tin Cases</b> for Sensitized paper				...	0 1 6
4703	<b>Vignette Glasses</b> , various ovals, &c.					
	$4\frac{1}{4} \times 3\frac{1}{4}$	...	$5 \times 4$	...	$6\frac{1}{2} \times 4\frac{3}{4}$	8 $\frac{1}{2}$ 6 $\frac{1}{2}$
	8d.	...	1s.	...	1s. 6d.	2s.

### GODSTONE AUTOMATIC WASHING TRAY (PATENT).

**For Washing Photographic Prints and Occasionally Negatives.**

				s. d.	s. d.
A	for prints to half plate	...	Price...	6 9	carriage 0 8
B	„ „ whole plate	...	„	9 0	„ 0 9
C	„ „ 15 $\times$ 12	...	„	14 6	„ 1 6

**416, Strand, London, W.C.**



## E. G. Wood,

### BOOKS.

Abney.	"Instruction in Photography"	...	...	...	s. d.
					3 6
Abney & Robinson.	"Art and Practice of Silver Printing"	...	...	...	2 6
Burton.	"Modern Dry Plate Photography"	...	...	...	1 0
Heighway.	"Handbook of Photographic Terms"	...	...	...	2 6
"	"Practical Portrait Photography"	...	...	...	1 0
"	"Photographic Printer's Assistant"	...	...	...	1
Robinson.	"Pictorial Effect in Photography"	...	...	...	2 6
"	"Picture Making by Photography"	...	...	...	2 6
Spiller.	"Elementary Treatise on Photographic Chemistry"	...	...	...	0 6
<b>Note Books</b> , invaluable in the Field—					
	Burton's, with New Tables of Exposures	...	...	...	1 0
	Openshaw's, neat Pocket Book form, with pencil	...	...	...	0 9

### ALMANACKS.

Annual Records of Photography, with sundry suggestions and practical information.

"The Year Book of Photography"	...	...	...	...	1 0
"The British Journal Photographic Almanack"	...	...	...	...	1 0

### WEEKLY JOURNALS.

"The Photographic News"	...	...	...	...	0 3
"The British Journal of Photography"	...	...	...	...	0 3
"The Amateur Photographer"	...	...	...	...	0 2

Postage Extra.

### ACKLAND'S SCALE OF PHOTOGRAPHIC EQUIVALENTS.

This Scale of Equivalents is of especial use to the Experimental Photographer and Emulsion Maker, shewing at a glance the relative converting values of the various haloid and other salts, and enabling even the merest tyro to calculate with rapidity and certainty all the usual problems that occur in Photographic Chemistry.

Price, with directions for use, 5s.

### READY-MADE SOLUTIONS.

<b>Ferrous Oxalate</b> , Developer, 2 Bottles, "F. & O."	20 ounces	...	...	s. d.
Do.	1 Solution	...	...	1 6
Do.	do.	...	...	1 0
Do.	do.	...	...	1 10
<b>Alkaline</b> , Developer, Concentrated, 3 Bottles, "B., P., & A.,"	2 ounces each	...	...	2 0

**74, Cheapside, London, E.C.**



# Horne, Thornthwaite & Wood,

## READY-MADE SOLUTION—(Continued).

					s.	d.
<b>Ferrous Oxalate</b> , Developer, 2 Bottles, "F. & O." ...	4	ounces	...	3	6	
Do. do. do. do.	6	"	...	6	0	
<b>Fixing Bath</b> , for Prints ...	20	"	...	0	10	
Do. do. Negatives ...	20	"	...	0	10	
<b>Clearing Bath</b> for Negative ...	20	"	...	1	0	
Do. do. Transparencies ...	10	"	...	1	6	
<b>Intensifying</b> , Mercuric ...	10	"	...	1	6	
Do. Uranium ...	5	"	...	1	0	
<b>Toning Bath</b> ...	20	"	...	1	6	
Chloride of Gold, Solution, 1 gr. to the dram ...	1	"	...	1	3	

Above prices include bottles.

*Other photographic formulæ made up at moderate charges.*

## PHOTOGRAPHIC CHEMICALS.

(PRICES SUBJECT TO MARKET.)

		s.	d.	Per lb.	Per oz.
		s.	d.	s.	d.
<b>ACID</b> , Acetic ...	...	1	9	0	2
Do. <b>Citric Powdered</b> ...	...	3	0	0	3
Do. <b>Hydrochloric</b> ...	...	0	6		
Do. <b>Nitric</b> ...	...	1	0		
Do. <b>Oxalic</b> ...	...	1	2	0	2
Do. <b>Pyrogallic</b> , Re-sublimed ...	...			1	4
Do. Do. $\frac{1}{2}$ oz. Wooden Canister	...	0	9		
Do. Do. <b>Scherings</b> ...	...			1	6
Do. <b>Sulphuric</b> ...	...	0	6		
Do. <b>Tartaric</b> ...	...	3	6	0	4
<b>Ammonia</b> , '880 ...	...	1	0	0	2
Do. <b>Carbonate</b> ...	...	1	0	0	2
<b>Ammonium</b> , <b>Bromide</b> (Best H. & W.) ...	...	3	6	0	4
Do. <b>Chloride</b> ...	...	1	2	0	2
Do. <b>Nitrate</b> ...	...	2	0	0	2
<b>Alum</b> , <b>Powdered</b> ...	...	0	6		
<b>Alcohol</b> , absolute ...	...	5	0	0	5
Do. <b>Methylated</b> ...	pint	1	0		
<b>BORAX</b> , powdered ...	...	0	9	0	2
<b>COLLODION</b> ...	per 2 oz. bottle	1	0		
Do. 6 oz., with Iodizer separate ...	3	8			
Do. <b>Mawson's Enamel</b> ...	per pint	3	0	0	4
<b>GELATINE</b> , Nelson's ...	...	6	0		
Do. <b>Heinrich's</b> ...	...	5	0		
<b>GLYCERINE</b> ...	...	1	4	0	2
<b>Gold</b> , <b>Chloride</b> ...	15 gr. tube	1	10		

416, Strand, London, W.C.



## E. G. Wood,

## PHOTOGRAPHIC CHEMICALS—(Continued).

				s. d.	Per lb. s. d.	Per oz. s. d.
Gold, Chloride	...	Solution, in bottle		...	...	1 3
Iron, Oxalate	...	...	...	...	2 6	0 3
Do Protosulphate	...	...	...	...	0 4	...
LIME, Hypochlorite	...	...	...	...	0 6	...
Magnesium Ribbon	...	per ¼-oz.	1 0	...	...	2 6
Mercury, Bichloride	...	...	...	...	3 8	0 4
METHYLATED SPIRIT	...	pint	1 0	...	...	...
Mounting Medium	...	per bottle	1 0	...	...	...
		ditto	2 0	...	...	...
Potash, Bichromate	...	...	...	...	1 0	0 2
Do. Carbonate	...	...	...	...	0 9	...
Do. Citrate	...	...	...	...	2 9	0 3
Do. Ferricyanide (Red Prussiate)	...	...	...	...	4 0	0 4
Do. Ferrocyanide (Yellow Prussiate)	...	...	...	...	1 9	0 2
Do. Neutral Oxalate	...	...	...	...	1 6	...
Potassium Bromide (Best H. & W.)	...	...	...	...	3 6	0 4
Silver, Nitrate	...	...	...	...	...	3 6
Do. ...	...	5 ounces	16 3	...	...	...
Soda, Acetate	...	...	...	...	1 0	0 2
Bicarbonate	...	...	...	...	0 4	...
Hyposulphite	...	...	...	...	0 2	...
Do. ...	...	7 lbs.	1 0	...	...	...
Sulphite, Recryst (Best H. & W.)	...	...	...	...	1 3	0 2
TEST PAPERS	...	per book	0 2	...	...	...
Varnish, Negative	...	per bottle	1 0	...	...	...
Do. Do.	...	½-pint	2 6	...	...	...
Do. Do.	...	pint	4 6	...	...	...
Do. Re-touching	...	per 4 oz. bottle	1 9	...	...	...
Do. Matt, Black, &c.	...	...	...	...	...	...
WATER, Distilled	...	pint	0 2	...	...	...
Do. Do.	...	gallon	0 9	...	...	...

Quantities less than 8 oz. charged at rate per oz. Other chemicals kept in stock. Export quotations for packing in canisters and bottles.

## BOTTLES.

## White Glass.

	Ounces	1	2	3	4	5	6	8	10	12	16	20
NARROW MOUTH, corked, each	1d.	1d.	1½d.	1½d.	2d.	2d.	2d.	3d.	3d.	4d.	4d.	
WIDE do.	1d.	1½d.	1½d.	2d.	2d.	2d.	3d.	3d.	4d.	5d.	4d.	
NARROW do. stoppered „	3d.	4d.	5d.	5d.	6d.	6d.	8d.					
WIDE do.	4d.	5d.	5d.	6d.	8d.	10d.						

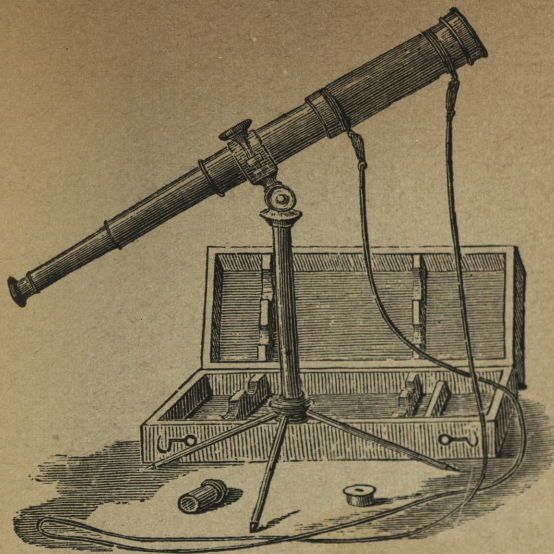
74, Cheapside, London, E.C.







# THE "DYER" TELESCOPE.



THIS beautiful Three Draw Telescope, now an established favourite in all parts of the world, is 15 ins. long when drawn out, and 5½ ins. when closed. The body is covered with leather, and is provided with a sling that it may be carried without difficulty.

The **Achromatic Object Glass** is 1 inch in diameter. Two Eye-pieces are made for it, one called the **Day Power**, and the other the **Astronomical Power**. The **Day Power** (which is the longer of the two Powers) magnifies 144 times superficial, and on a fine day will distinguish a **Church Clock at Four Miles**, and small windows in houses at **Ten Miles**. The **Astronomical Power** magnifies 324 times superficial, and will enable Jupiter and his Satellites, the Solar Spots, the Lunar Mountains, and other celestial objects to be satisfactorily seen. This power in **clear weather** can be used instead of the Day Power, thereby **increasing** the range of the telescope to **15 miles**.

The **Sun Glass** is a flat, dark coloured Glass, fixed in a brass cap that screws over the **Astronomical Power**. The Sun Glass is only required when the sun's disc is to be observed; for all other objects the **Astronomical Power** is used without any cap in front of it.

In order to meet a want long experienced, brass **tripod stands** are now made for "Dyer" Telescopes. These stands are so constructed that not only may they be used on the table, but by removing the jointed clip at the top of the pillar, which carries the Telescope, a screw is exposed, enabling it to be fixed to a tree or fence for outdoor purposes.

"**Dyer**" Telescope, with leather sling in case, 10/6; the Day Power ditto, with **Astronomical Power** in addition, 15/6; ditto, with Tripod Stand, packed in a neat case, 26/-.

Any of the accessories may be had *pro rata*.

**E. G. WOOD** can confidently recommend these instruments, the greatest care being taken in their production, that they may retain the character for excellence which they have maintained against all imitations.

**E. G. WOOD, 74, Cheapside, E.C..**

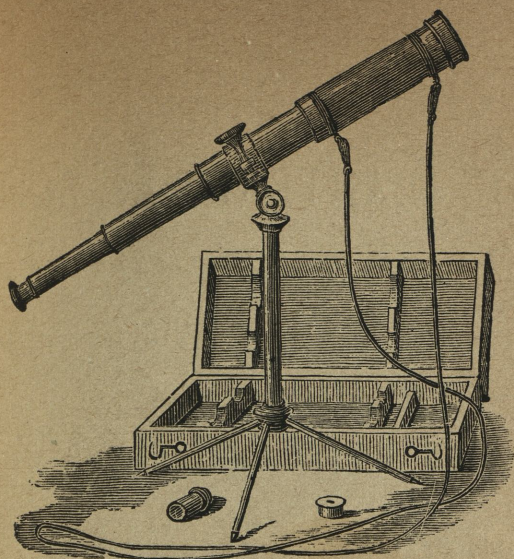
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